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## SOUTHERN STATES NUMBER

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The Editor is pleased to consider contributions of interest to the Indian Industry.

Articles should be accompanied by photographs wherever possible and a stamped addressed envelope should be enclosed for return in the event of unsuitability.

Trade notes and short news paragraphs are always welcome.

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## Southern States

A feeling is entertained in the heart of every Southerner that as far as the establishment of heavy industries are concerned, South is given a step-motherly treatment. Localisation of heavy industries in THREE B States (Bombay, Bihar and Bengal) cannot be taken as a historical accident—each one contends. The fact is there: the continuation of that fact is there: it is sending out new roots deep into the northern soil that its magnificant sprouts spread from coast to coast, pole to pole and leave everlastingly areas of glory that breed further spreads.

Why this discrimination, every one asks, upset by the disquieting economic in equalibrium.

Centuries of foreign rule in this unhappy land have sapped the vitals of private enterprise. Our maritime glory, our opulence that far outshone the wealth of Ormus, the skill of our handicrafts that kept west bewildered in astonishment—all these are tales of a hoary past. Foreign firms running industries in stray places of this sub-continent worked for accumulation of more profits. It was at this most darkest hour, a vision of a Tata worked a miracle and threw open magic casements of an enterprise with iron will.

Nature's bounteous gifts like easily procurable iron and coal, availability of power to keep the machines of manufacture humming and an indomitable will to live and lead others to live—saw the birth of industries around Bombay and Calcutta. The courage and foresight of Tatas, Birlas, Jains, Modis, Jaipurias, and their magnificent co-evals blazed new and ever new industrial trails and opened up new horizons to their associate lights to launch ancillary industries galore. The trials and tribulations, these mighty savants encountered in their start, are sagas that will inspire many an entrepreneur in the East for centuries to come.

## ASSISTANCE TO SMALL INDUSTRIES

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ASSISTING SMALL INDUSTRIES


The Southerner was an intelligent gazer of this silent revolution, changing the social lifes of millions in Bombay and Bihar and Bengal. With no hurry, with no vain sentiments, with no fever to amass fortunes, he saw the tide sweep on and when its surging floods glided triumphantly between the twin banks of service and security, his muscles moved, his thoughts roamed for new pastures and his hands ached for fruitful toil.

There burgeoned on the industrial horizon of South, a Sir C.P. who tapped from the mighty torrents of raging rivers electric energy and planted many a industry in fertile Kerala. Late Seshasayee sowed many seeds that today have grown into sturdy concerns. It was the fortune of South India that many an industrial genius like sublime Anantharamakrishnan, a memorable Murugappa, a towering T. V. S., a rare Ramakrishna, a gem of a Ramaswamy, universal Viswesvarayya, an admirable V.G.G. Nayar, a monumental M. CT. M., a kingly Kothari, a many sided Thomas and a host of foreigners like Harvey, Stanes and Binnys toiled and triumphed to make South a beehive of industries. They came late but in a short span they have created history. Today Viswesvarayya is an industrial monarch, beaming like a beacon, guiding the manufacturers to take the leap forward in time and with triumph.

The past decade has witnessed a feverish haste among Southern entrepreneurs to grow more industries. Let us take Madras State as a sample. In the First Plan 586 companies were formed with a capital of Rs. 46 crores. The Second Plan saw the establishment of 796 companies with a capital of Rs. 184 crores. So in a decade, the people in Madras State have invested Rs. 230 crores. Taking into account the capital of the existing companies and the new ones to be started in Third Plan, we are sure to reach the enviable figure of over Rs. 500 crores. And this will mean roughly about 20% of the total amount invested in Indian Industries. Really an achievement and by 1965, I feel sure that not a voice will be heard in any part of Madras State that discrimination exists in the localisation of industries.

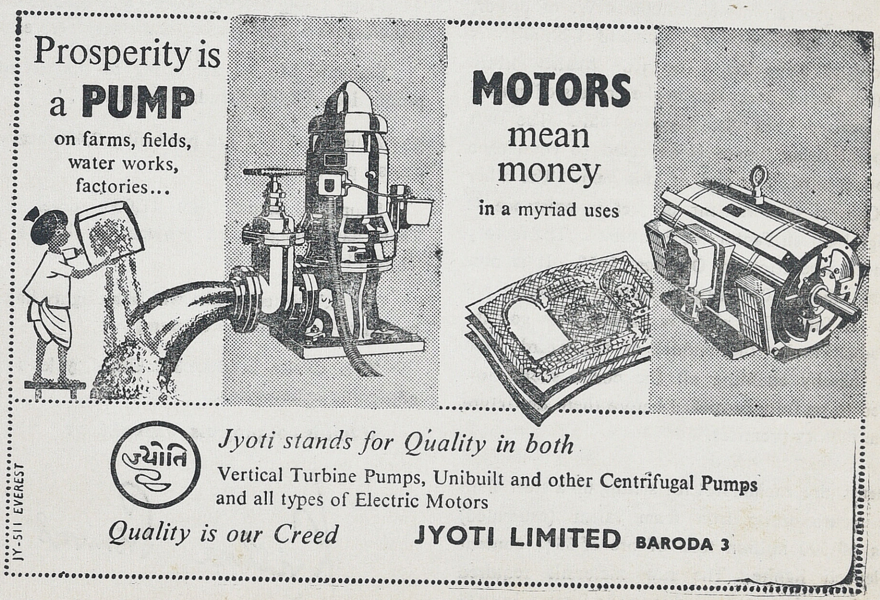
The articles in the succeeding pages bear eloquent testimony to the rapid industrialisation of the Southern States.

The recent announcement from the centre to allot over Rs. 120 crores to South for starting heavy industries will cheer us.

Till now, we suffered from several handicaps. The known mineral resources are scanty—the present sources of industrial fuel are over a thousand miles away—though there is the prospect of setting up a steel plant within the State in the near future, the present supplies of iron and steel have to come from the distant steel plants of the North. However, thanks to certain balancing factors such as political stability, a long tradition of sound administratorship, enthusiastic entrepreneurship and efficient man-power resources, Madras has been able to overcome the several handicaps. Men of enterprise, who, in the old days would have devoted their energies and money to agriculture and allied avenues of investment, are now turning to the fascinatingly multifarious possibilities of major industries. Political stability and comparative industrial peace are attracting to this State entrepreneurs from outside the State. Industrial growth has also been stimulated by the existence of adequate port and transport facilities within the State. For these reasons, the tempo of industrialisation has been perceptibly quickening in this State during the last few years.

To infuse confidence in industry among the investing public, the Government have directly taken shares in industrial concerns like cement, rayon, cotton yarn, viscose rayon, fertilizers etc. The Madras Investment Corporation is doing distinct services. 106 industrial concerns have been granted loans of Rs. 5.33 crores so far. Over 16,000 small industrialists have benefited to the tune of Rs. 1.11 crores.

Prominent among the existing projects in the public sector is the Integrated Neyveli Lignite Project for the utilisation of the extensive lignite deposits in South Arcot district (estimated at about 2,000 million tons). The Project envisages the mining of 4.8 million tons of lignite which will be

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utilised for generation of 400,000 K.W. of power, production of 1,52,000 tons of urea and 3,80,000 tons of carbonised briquettes The fine quality white clay that is being excavated in the process of mining will be utilised in a clay washing unit. The first power plant using lignite is expected to commence operation towards the end of this year. The other major Central Government project in existence is the Integral Coach Factory at Perambur. The factory commenced operation in October, 1955. It is now producing about 600 integral railway coaches per annum. A furnishing plant is expected to go into full production by the middle of the Third Plan period, thereby enabling all the coach shells now produced to be fully furnished before their departure from the factory premises.

Events are racing fast for setting up a steel plant in the South using iron from Salem (estimated) reserves of 300 million tons of ore of 35% content and Neyveli lignite. The raw materials required for such a project are available in the State. Investigation of the raw materials and an examination of the various schemes for economically producing iron from our ore are in progress. If this project should materialise, the dependence of this State on the North's steel mills for iron and steel supplies will be reduced to a considerable extent.

Of almost equal significance is the oil exploration now going on in the Cauvery basin. Russian Experts who visited this State in 1956 expressed the view that the Cauvery basin contains sedimentary rocks which are favourable for the formation of oil. Initial investigations conducted by the Geological Survey and the Oil and Natural Gas Commission have also disclosed that the marine strata found in the basin under-lying the Cuddalore Bandstones are favourable for oil formation. At present a seistric party has been deputed by the Government of India to carry out investigations in this area. Another important project in the public sector in the Third Plan is a re-rolling mill with a capacity of 20,000 tons per annum. This will be set up by the State Government.

Madras State is really fortunate to have 136 spinning Mills, providing employment to 2 million people. It has 80 large-scale tanneries.

Binny's Engineering works and K.C.P. Ltd. will manufacture 6 sugar factory machinery per year.

Standard Motors are going to double up their production of 3,000 Standard carsa year.

Ashok Leyland are producing 2,400 heavy truck chassis per annum.

Simpsons manufacture 11,000 diesel engines. They have magnificent projects to launch in the Third Plan.

T.V.S.'s Wheels India will be a mighty fine contribution to South Indian economy.

T. I. Cycles produce 3 lakhs of cycles a year, an admirable achievement.

If this is not progress, what else is?

Krishna Srinivas

# Madras Industries

**R VENKATARAMAN**

Minister for Industries, Madras Government

The development of industries in Madras has been assigned a high order of priority during the Second Five Year Plan. Industries may be broadly classified as (1) Heavy Industries producing capital goods, (2) Light or Small-Scale Industries producing consumer goods with the aid of small machinery and power, (3) Village Industries that are traditional in character producing such goods as are consumable within the village and not involving the use of any complicated machinery and (4) Handicrafts which involve high degree of artistic skill.

In the following paragraphs, the industrial development that has taken place in Madras State is briefly explained.

**Heavy Industries Make Headway**

The most important project now implemented in the public sector under this head is the Integrated Lignite Project at Neyveli. The project provides for the mining of *3.5 million* tons of lignite per annum. In order to enable the project to operate as a commercial venture, the Government of India have created a Government limited company under the title of "The Neyveli Lignite Corporation Ltd." The project is an integrated one, the constituent schemes being:

(1) Mining Scheme, (2) Thermal Power Station Scheme, (3) Fertiliser Production Scheme, (4) Briquetting and Carbonizing Scheme and (5) Clay Washing Scheme.

The first unit of the Thermal Power Station is expected to be put into operation in 1961 and the Fertilizer and the Briquetting and Carbonizing Plants are also expected to go into production in the course of the year 1963.

The establishment of an Iron and Steel Plant in the State based on the iron *ores of Salem District* and Neyveli Lignite has been engaging the attention of the Government for a considerable time. A team of experts from the German Democratic Republic inspected the sites and studied the feasibility of the project. Their Report indicates that the scheme for the manufacture of steel from the iron ores of Salem District is *economically feasible.* The preparatory work for the setting up of the project has been taken up on hand and a Special Officer has been appointed with an appropriate complement of staff to attend to the various administrative and technical items of work, so as to facilitate the implementation of the project at an early date. The Government have also constituted a "*Special Cell*" to assist and advise the Special Officer on technical and other matters. The Government have also encouraged the setting up of *Pig Iron Plants* in the Private

Sector and licences have been issued to three industrial undertakings, viz., Textool Co. Ltd., Coimbatore, Soundararajan Co. (Private) Limited, Madras, and Kalinga Industries, Calcutta. Of these, Textool Co. Ltd., has already commenced production while the other two have asked for permission to have a plant with larger capacity.

*Madras Aluminium Co. Ltd.*, has been registered under the Indian Companies Act to undertake the establishment of an aluminium plant in *Mettur*. Technical Collaboration agreement with Montecatinis has been concluded. The Collaboration agreement has been approved by the Government of India and also capital issue sanction has been received for Rs. 4.5 crores Equity and Rs. 1.5 crores Preference.

*A Photographic Raw Film Factory* is to be set up at Ootacamund for the manufacture of photographic raw film and papers. The project will be implemented through the National Industrial Development Corporation in technical collaboration with a French firm of repute The factory is expected to commence production by the middle of 1962.

It has also been decided to set up a *Surgical Instruments Factory in Nandambakkam* near Madras. This factory, which is to be established with Soviet aid, is expected to produce 20 lakhs of surgical instruments of different kinds each year and provide employment for 2,000 persons.

So far, 378 licences have been issued under the Industries (Development and Regulation) Act, 1951 for the establishment of new industrial undertakings and substantial expansion etc. in this State and they include four *cement factories*, nine *sugar factories*, six *fertiliser factories*, six *factories for manufacturing* heavy chemicals, two *factories for manufacture of automobiles*, one *for automobile diesel engines* and a number of automobile components like pistons, ring, valves, etc.

**Small Scale Industries Extended**

Small scale industries have played a vital role in the economy of our country, their contribution to the national income being very appreciable. Their importance has, therefore, received increasing recognition and it is reflected in the high priority accorded to the development of these industries under the Second Plan. The principal needs of the small scale industries are training and technical advice in the use of improved tools and machines and in the adoption of new techniques, supply of raw materials and power at reasonable rates, grant of financial aid on easy terms, extension of assistance in the marketing of finished products and provision of ready-made factory space and servicing facilities.

To fulfil these needs, the Government of Madras have implemented several schemes, including 5 Tool Room Shops, 15 Common Service Facility Workshops, 18 Pilot Production Centres, 6 Training and Demonstration Centres, 5 Social Welfare Schemes, 11 Sales Depots, 1 Technical Information Section, 1 Raw Material Depot, 13 Industrial Co-operatives and 10 Industrial Estates and Colonies.

The following facts will give an idea of the progress made in the various fields :—

*(1) Tool Rooms*—There is a tool room shop at Guindy, where servicing work is undertaken in precision grinding, jig boring, etc., and in the supply of special tools, jigs, fixtures, dies, etc. A designing section has also been set up to work in conjunction with the tool room. Similarly, a tool room has been provided in the Industrial Colony, Erode, and three such units are expected to start functioning in the Industrial Colonies at Pettai, Virudhunagar and Tiruchirapalli in the current year.

*(2) Common Service Facility Worshops*—Fifteen Common Service Facility Workshops have been provided in the State, and they include the Forging and Heat Treatment and the Finishing Shops at Guindy set up with the help of a Swedish Expert and the Electrical Goods Unit, Guindy, set up with the help of 3 Hungarian Experts. These workshops serve the needs of organised private small scale units as well as the artisans. During the last year, about 500 small scale industrialists availed themselves of the facilities available in the various units.

A Common Lease Shop has also been set up with the T.C.M. aid in the Industrial Estate, Guindy, where certain machines are hired out to industrialists along with Government workmen.

*(3) Pilot Production Centres*—Out of the 18 Pilot Production Centres, eleven have so far gone into production and articles such as galvanised structurals, pressue die cast parts, ferrous castings, splints and veneers, bolts and nuts, cycle parts, sheet metal articles, L.T. insulators, etc., are being produced in these centres. The Cycle Assembly Unit at Thanjavur and the Salt Glazed Pipes Factory, Quartz Crushing Plant and the Handloom Parts Units at Salem and the Unit for the manufacture of Fractional H.P. Motors at Guindy are expected to go into production during the current year.

*(4) Other Technical Aids*—There is a Technical Information Section in the Industrial Estate, Guindy, which contains a variety of technical books, periodicals, manuals, bulletins, catalogues of machines, model schemes, survey reports, etc., and they are made available for the visitors who come for consultation.

(5) *Training and Demonstration Centres*—Six Training and Demonstration Centres are now functioning in the State to impart training in wood working, blacksmithy, sheetmetal work, etc. Besides these centres, six mobile vans—three for wood working and three for blacksmithy—are also being sent to villages periodically for popularising and for training artisans in the use of power operated machines.

(6) *Grant of State Aid*—A sum of Rs. 25 lakhs has been provided for the grant of loans to small scale industrialists during the year 1960–61. During the period from 1–4–1960 to 31–10–1960, loans to the extent of Rs. 18,48,689/- were sanctioned to 2,804 industrialists and a sum of Rs. 10,43,255 has actually been disbursed so far to 2,182 industrialists.

(7) *Industrial Estates and Colonies*—Under the scheme 'Industrial Estates and Colonies' which is intended to provide factory space at a reasonable rent to all small enterpreneurs with a complete range of Industrial Services, 2 Industrial Estates—one at Guindy and another at Virudhunagar and Colonies, one each at Madurai, Tiruchirapalli, Erode, Pettai and Marthandam have been established and they are now functioning. Three more Colonies at Thanjavur, Katpadi and Salem are expected to start functioning during the current year.

(8) *Industrial Co-operatives*—Thirteen industrial Co-operatives have been organized and these include the Perambur Arunthathiyar Leather Worker's Co-operative Society, Sriperunbudur Bolts and Nuts Society, Kancheepuram Metal Workers' Co-operative Society, Nagapattinam Steel Trunk Workers' Society, Kumbakonam Co-operative Metal Works, Ammapet Blacksmithy and Carpentry Society, Dindigul Lock Workers Society, Talayuthu Timber Works, Marthandam Co-operative Timber Works. etc.

(9) *Coir Industry*—There is a great scope for the development of coir industry in this State and the Government have, therefore, sanctioned the establishment of a Coir School at Ethamuzhi in Kanyakumari district to give training to the workers in the manufacture of mats, matting, brush mats, etc, using modern machines and equipment. The total cost of this scheme is Rs. 1.82 lakhs and the School is expected to start functioning in 1961–62.

A scheme for the establishment of a pilot plant for the manufacture of mattress and bristle fibre in Tirunelveli district at a total cost of Rs 1.09 lakhs has been sanctioned by the Government. This scheme envisages the adoption of the process and machinery commonly employed in Ceylon and the unit is expected to start working in 1961–62.

The Government have also sanctioned the establishment of Coir Demonstration-cum-Training Centres at Keelakarai and Adirampatnam for the benefit of the repatriates from Ceylon. The Unit at Keelakarai has since been changed to Periapatnam. These Units will start functioning in the current year and be run for one year.

**Handicrafts of South India**

The handicrafts of South India are its greatest heritage and with the advent of the machine age, they began to fade away and were in imminent danger of being virtually lost to posterity. A planned attempt was made to rehabilitate the crafts and several schemes were formulated to revive the forgotten handicrafts and resuscitate the languishing ones to suit the present conditions.

In many of the crafts there are only a few master craftsmen pursuing the crafts on traditional lines in remote villages. The training of adequate number of artisans in the various crafts was, therefore, given priority, and thirty-six Departmental Training, Servicing and Production Centres have been set up throughout the State for the development of the following handicrafts:

(1) Art Metal Work at Madurai and Swamimalai, (2) Bell Metal Work at Nachiarkoil and Vagaikulam in Tirunelveli district, (3) Fancy Leather goods at Guindy and Elayangudi, (4) Lace and Embroidery at Palayamkottai and Gopichettipalayam, (5) Paper Toys and Papier Mache articles at Tanjavur and Panruti, (6) Alœ Fibre Products at Neduveyal, (7) Palm leaf products at Pallapatti, etc., (8) Palmyrah Furniture at Nazareth and Manamadurai. (9) Cane and Rattan Work at Wallajapet, (10) Bamboo Industry at Madurai, (11) Glass Bangle Industry at Nedumarthy, (12) Printing and Dyeing at Rajapalayam, (13) Weaving Woollen Cumblies and Druggets at Kolakudi. (14) Cloth Dolls at Palayamkottai, (15) Ornamental Handles at Madurai, (16) Kalamkari Printing at Sickinaickenpatti, (17) Sculpture and Casting Moulds at Mahabalipuram, (18) Shell Toys at Madras, (19) weaving Carpets and Druggets out of sun hemp fibre at Gopalasamudram and Salem, (20) Painting Pictures on Wood at Thanjavur, (21) Sungadai Saree Printing at Kadayanallur and (22) Wooden Toys at Erode.

A research Centre for Glazed Pottery has been set up at Madras and it has carried out a systematic study of clay deposits and standardised glazes and has evolved a number of new designs.

A Wool Processing Centre has been established at Vinnamangalam in North Arcot district as a joint venture of the Madras and the Mysore Governments

to make available to the druggets manufacturers of the two States quality wool for druggets meant for export. The initial cost of the scheme is Rs. 13.10 lakhs and is to be met equally by the Governments of Madras, Mysore and the Union Government.

Financial assistance was provided towards working capital, etc., for the expansion of the Victoria Technical Institute, Madras, and the Handicrafts Emporia at Madras and Madurai and for training candidates in handicrafts in private institutions such as Stree Seva Mandir, Madras, etc.

The lack of proper organisation among handicrafts workers, who are scattered throughout the country, has been the main handicap in the development of handicrafts. A number of new Handicraft Industrial Co-operative Societies have, therefore, been organised in this State and financial assistance has been provided to them in the form of loan towards working capital and share capital and grant towards the cost of special supervisory staff. A Central Handicrafts Marketing Co-operative Society has been established at Madras.

Five Sales-cum-Procurement Depots have been started at Tirunelveli, Thanjavur, Coimbatore, Salem and Rameswaram. One more Depot is also expected to start functioning in the current year at Tiruchirapalli.

**Sericulture Industry**

At the commencement of the Second Plan, Madras State had about 1,500 acres under mulberry in the districts of Goimbatore, Salem and Nilgiris for pursuing the silk industry. As the State had potentialities of development, several schemes of mostly servicing nature were implemented during the Second Five Year Plan period with the result that the present extent under mulberry is about 2,800 acres in the State. The industry has been newly introduced in the districts of Tirunelveli, South Arcot and North Arcot. The sericulturists in the State receive technical guidance from the staff who are stationed in important centres. Demonstration Farms and Chawkie units were established in Hosur, Talavadi, Tenkasi and Masanagudi to demonstrate to the sericulturists the rational practices in the industry. A Government Mulberry Craft Nursery has been established with a view to producing annually five lakh mulberry, grafts for bringing about 50 acres of graft mulberry, as grafts are found to be superior to local mulberry. A cross breed grainage with an annual capacity of five laks disease-free seeds production has also been established with a view to supplying the silkworm rearers with protected silkworm eggs free from diseases. A seed campaign centre in Denkanicottah for local races and the existing foreign race stations in Hosur and Conoor for foreign races have been reorganised for hybridisation work. Four Government cocoon markets in important sericultural areas have been established to afford ready marketing facilities to the sericulturists at a fair price. The reeling of silk which involves a good amount of investment has also been taken care of. An Industrial Co-operative for Silk Reeling has been started in Talavadi with 300 members.

**Craftsmen Training Schemes**

In order to meet the growing demand for technical man-power required for implementing schemes of national development to turn a large number of craftsmen in engineering, building and vocational trades on a country-wide basis have been taken up in the State. Significant among them are the four Industrial Training Institutes at Cuddalore, Pettai Tirunelveli, Nagapattinam and Virudhunagar for apprenticeship training schemes, evening classes for industrial workers and integration of industrial school sections. A scheme for the establishment of work and orientation centres for the educated unemployed has also been taken up.

***

# Productivity Movement

S. ANANTHARAMAKRISHNAN

Chairman, Simpsons Group of Industries

During the last two years the Productivity Movement has made good strides and has spread extensively in India. It is my considered view that Management Science should take its due place in the industrial arena and modern techniques of Scientific Management should be applied to the various sectors of industry. The concept of Productivity cannot permit of unscientific, unorganised and untrained efforts or methods for attaining the objective. In fact, it is now certain that such an approach cannot have the desired effect on productivity. On the other hand, it may retard progress. Though Productivity is often regarded as a complex and almost mysterious phenomenon, it is a MUST in industry today and the need to raise the levels of Productivity was never more urgent.

If we are to compete in world markets, we must produce better quality products at lower costs. This can be achieved only by increasing productivity. There is always a better and more efficient method of doing a job and Productivity finds and applies that method. In trying to increase the productivity of our industries, it is quite natural for us to follow the example of other industrially advanced countries. But mere adoption of such methods is not enough. In an underdeveloped country like ours, the methods applied and applicable in industrially advanced countries may not be fully suitable. If would be, therefore, necessary to undertake constant research and investigation for application of techniques congenial to our peculiar conditions. The productivity movement has undertaken a great part of this essential work on a co-operative basis so that everybody may draw the benefits from the common pool.

Increase in Productivity will result in benefits to all sections of society. To the nation, it would result in the production of more wealth and higher standard of living for its people. To the industry, it would mean reduction in the cost of production and increase in profits. To labour, it would improve their wages and working conditions. To the consumer, it would mean lower prices, better quality of goods and greater satisfaction. Increased production at lower cost will, in the long run, stimulate greater demand and generate greater economic activity. This would, in turn, result in an increase in employment opportunities.

Higher Productivity is as much the concern of labour as of management and the desired progress can be achieved only when management and labour work shoulder to shoulder towards that common goal. The management must appreciate that it is by the adoption of modern productivity techniques that the cost of production can be reduced without affecting quality. Labour must be convinced that increase in production does not necessarily imply greater work loads on their part. Increased productivity does not mean greater production through harder work. It means increased output through more effective work.

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We want to solve the problem of unemployment for our masses and raise the standard of living. To achieve these objectives, programmes of industrialisation have been embarked upon through successive Five-Year Plans. To get the maximum results and benefits of these mighty efforts, we must adopt productivity techniques to ensure optimum utilisation of our limited resources of capital, machinery, skill, trained manpower, etc.

The importance of Cost Control in industry cannot be underestimated. This is an effective tool to improve industrial relations, increase operative efficiency and give a sense of direction to the enterprise. Costing analysis will enable assessment of the profitability of the product, need for standardisation and elimination of the more expensive lines. Cost Accounting would pinpoint the places where economy should be applied. Plant Layout plays a vital part in productivity. It is rightly described as "Planned and orderly arrangement of machinery and equipment together with the logical movement of parts and raw material which will permit the most efficient use of equipment of well as the workers' "time and ability". Organised installation of plant and equipment would, of course, enable more efficient and less expensive production.

In recent times Work Study has gained considerable significance in industrial operations and has come to be recognised as a valuable tool for management. The method study and time study covered by job analysis which is a part of Work Study are techniques that produce maximum output with minimum effort and least waste.

Material Handling demands careful attention in industrial enterprises. Handling cost often makes a product expensive. The less number of times a material is handled, the less expensive the product will be. It is here the use of Material Handling equipment becomes necsssary.

Preventive Maintenance assumes importance as the machinery and equipment need to be kept in perfect condition to avoid breakdown and failures and to keep up production schedules. Import of machinery being subject to immense difficulties, industries naturally have to make lasting use of existing machinery and this is possible only by planned periodical maintenance work.

Our country is renowned for its artisans and their skill. The technique of Work Holding Devices is applicable to this section of the community and the use of the device will undoubtedly increase the productive efficiency of our craftsmen. ***

# Madras State Industrial Co-operative Bank

**P. SABANAYAGAM,** I.A.S.,
Director of Industries & Commerce, Madras

Artisans are found throughout our country. Their main asset is their skill. The hands with which they work are so subtle and in them is lodged the very genius of our ancient country that it is possible for them to mould the finest pieces of art whether they be of purely aesthetic value or for domestic use. With the large scale industrialisation and the mass production techniques and with the continuing low prosperity prevailing, there is a tendency on the part of the people to go in for items purely on the basis of price. The battle is one between organised industry and dispersed pockets of specialised craft. If things were allowed to continue it would not have been long before millions of skilled artisans and craftsmen would have been forced to give up their traditional profession and look for other venues of employment. The Government appreciated this problem and the need for the continued existence of the skilled craftsmen and have, for their survival, formulated the scheme of forming co-operatives. Unlike the general concept of co-operation where the entire share capital is provided by the members, in the case of Industrial Co-operatives considering the fact that the credit as far as the artisans are concerned is their skill and their hands it was thought fit and just to ask them to contribute only a nominal portion towards share capital, the balance being given as loan to the artisans recoverable in stages. Working capital on the basis of share capital was then advanced to them to meet their daily needs. The scheme was such a success that during the space of approximately 5 years we have got over 2,000 societies. Of this number about 1,700 societies cover village industries and recently these societies were transferred to the Khadi and Village Industries Board leaving about 350 industrial co-operatives with the Industries Department. The variety of products manufactured in the societies range from coir to sericulture and from brass utensils to bolts and nuts. Apart from these 350 and odd industrial co-operatives coming within the ambit of the Industries Department it is estimated, there are over 7,000 small industries scattered throughout the State. These small industrialists are those who are employing a few persons apart from working themselves. Some of them are entrepreneurs who can command some finance but not all that is required for the expansion and development of their units.

Industrial Co-operatives and Small Industrialists have a vital part to play in the industrial development of the country. They have the tools, they have the skill, they have the energy but what they lack is finance at a fair rate of interest repayable in a reasonable period of time. The Government of Madras for every financial year allocated a sum of Rs. 25

lakhs under State Aid to Industries Act which was being disbursed by the Department of Industries. It has been thought fit under expert advice that all banking should be institutionalised and departments as such, after a certain stage, should hand over these functions. As members are aware, the commercial banks are playing a prominent role in the financing of industries but their main concern is to ensure that the funds of the bank are secure and the return from the loans advanced would be attractive. The development aspect and the human aspect are considerations which are rather difficult for commercial banks to appreciate in their present set up. For the large industries depending upon the size of the loan there are institutions like the International Bank of Reconstruction and Development, Industrial credit and Investment Corporation, Finance Corporation of India, the Madras Industrial Investment Corporation and Private Banks. But so far as small scale Industrialists are concerned there is no bank to-day which provides assistance for long term loans. It, therefore, became necessary that there should be a separate bank for the purpose of providing finance to industrial co-operatives and small industrialists. This explains to you the background in which the Industrial Co-operative Bank which is to be inaugurated to-day has come into existence.

It would be pertinent to point out that this Industrial Co-operative Bank which is about to be inaugurated will be the very first in the whole of India for it will be the first bank in which not only the Industrial Co-operatives are members, but also small scale industrialists, who will be availing of the facilities. But for the consistent support of the Government of Madras and their persistent efforts this bank would not have materialised. It will not be necessary to emphasise the fact that but for the help, guidance and untiring efforts of our Hon'ble Minister for Industries the establishment of the Industrial Co-operative Bank would have been delayed. Hence may I express on behalf of you all and the thousands of small scale indusirialists all over the country our deep sense of gratitude to him.

The authorised share capital of the bank is Rs. 30 lakhs of which 51 percent will be held by the Madras Government, the balance will be made up by shares taken by Industrial Co-operatives, small industrialists and individuals. The bank has been authorised to receive deposits; the principal and interest has been guaranteed fully and unconditionally by the Government of Madras.

The success of the scheme depends entirely on the co-operation of everyone of its members and the sympathy and helpful attitude of everyone in the State. It will be incumbent on the first Board of Directors to give a lead in the advancing and financing of small industries. It will be for them to lay down the fundamental principles and set conventions keeping in mind their main objective, namely, timely help to the skilled artisans.

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# Andhra Industries

D. SANJIVAYYA

Chief Minister, Andhra Pradesh, Hydarabad

The idea of post-war reconstruction of the country immediately after the cessation of hostilities in 1945 gradually developed into the concept of planned economic development, and beginning from the year 1951, we have been under the spell of two Five Year Plans. The First Plan formulated with the twin objectives of correcting the disequilibrium in the economy caused by the war and the partition of the country and initiating simultaneously a process of all-round balanced development which would ensure a rising national income and a steady improvement in living standards, was successfully completed in 1956 resulting in a marked improvement in levels of production, both in agriculture and industry, and evoking widespread public interest and enthusiasm in the Plans. The Second Plan which we are currently going through and which would be completed in about three months time had for its task the stepping up of investment substantially and keeping the various sectors of the economy moving together in balance so that a sizeable increase in the national income, rapid industrialisation, expansion of employment opportunities, reduction of inequalities in income and wealth and a more even distribution of economic power could be secured. It is hoped that these national objectives would have also been, by and large, realised with the completion of the Second Plan in March, 1961.

**Role of States in Planning**

While the Government of India, in our Constitution, secures co-ordination of policies and concerted action with a view to avoiding dangers of waste and misdirection of effort, watches and assesses the progress of major development schemes in the different parts of the country, initiates and promotes action in furtherance of the declared objectives and defined fargets, it is the States which are regional and functional organisations to implement the plans successfully. No doubt, there are certain fields of development which are the exclusive responsibility of the Government of India but the States play a larger role in the process of implementing the development plans.

**Progressive Increase in Outlay**

In the enlarged State of Andhra Pradesh which came into existence seven months after the commencement of the Second Plan, the outlay during the Second Plan period is expected to be of the order of Rs. 180 crores against the original outlay of about Rs. 175 crores. Andhra Pradesh is perhaps one of the few States in India which would exceed the Plan target. Beginning with an expenditure of about Rs. 26 crores in the first year of the Plan, the annual expenditure was increased to Rs. 31 crores in the second,

Rs. 34 crores in the third, Rs. 42 crores in the fourth and it is expected to reach Rs. 47 crores in the fifth and the last year of the Plan. This progressive record of performance against the odds of administrative difficulties arising out of re-organisation of States, delays inherent in obtaining sanction for some of the schemes, foreign exchange difficulties, lack of scarce raw materials like iron and steel, cement, etc., paucity of trained technical personnel in some categories and the large body of civil servants who were largely trained for a law and order administration and who needed lot of orientation before they could switch over to the needs of a welfare administration, has been considered quite a good record even by the critics of 'Planning'. Of the Rs. 180 crores which we would be spending before the close of the Second Plan period, the expenditure on agricultural programmes would amount to about Rs. 19 crores, on co-operation and Community Development Rs. 17 crores, on irrigation and power Rs. 93 crores, on Industry and mining Rs. 10 crores, on transport and communications Rs. 6 crores, on social services Rs. 32 crores and on miscellaneous schemes Rs. 3 crores.

**Development in Telengana**

Of particular significance is the progress made in the implementation of plan in Telengana. From an expenditure of about Rs. 5 crores during the First Year of the Second Plan the expenditure during the last year is expected to be around Rs. 17 crores which would mean an increase of about 3½ times over the expenditure in the beginning of the Second Plan. This has been possible mainly because constant watch was kept over the implementation of the plan schemes in the Telengana region and adequate administrative arrangements were made to increase the tempo of developments in Telengana area. Against this, the expenditure in Andhra will increase from about Rs. 21 crores in the first year to only Rs. 30 crores in the last year.

**Second Plan Achievements**

This outlay of Rs. 180 crores would have secured to the State, by the end of March, 1961, the following achievements. The foodgrains production would have increased by 16.43 lakh tons, the additional irrigation potential by major and medium irrigation projects by 5.76 lakh acres, the installed capacity for generation of electricity by 1,28,820 kw and the number of villages and towns electrified by about 21,000. Towards the progressive development of co-operative activity, 548 large sized co-operative societies were formed all over the State. The total number of co-operative societies has increased to 11,880, the percentage of villages covered, to 71.8 and the amount of loans granted, to Rs. 13.78 crores. Road development also received priority and 1,806 miles of roads were either newly formed or repaired to a satisfactory condition and upgraded. Equally satisfactory progress was recorded in the enlargement of social services. The enrolment of children between the age groups of 6-17 years was increased by over 2.27 lakhs. The bed strength of the various hospitals in the State was increased by 2,246, besides introduction of specialities in the hospitals, provincialisation of Local Fund Dispensaries and establishment of Rural Health Centres. On the preventive side, the various All-India programmes like malaria eradication, filaria control, leprosy control, B.C.G. vaccination campaign etc., were successfully implemented. Under the housing programme, through subsidised Industrial Housing, co-operative housing, low-income group housing etc., over 6,570 houses were built.

**Community Development Programme**

One of the significant achievements in the State is the progress made under the Community Development programme. To-day there are 326 Blocks—192 Stage-I, 82 Stage-II. 5 Community Development, 4 Multi-purpose and 43 Pre-Extension Blocks—covering 79 per cent of the villages in the State, 68 per cent of the area of the State and about 80 per cent of the rural population. The programme which began with a shaky start gathered vitality during the past seven or eight years and to-day the State can claim to be one of those where the Community Development Programme had made a significant impact on rural life. From the All-India review of Community Development programme issued by the Ministry of Community Development and Co-operation for the year 1959-60, it is seen that out of the 26 activities reviewed, the average achievements of Blocks in this State exceeded the All-India average in respect of 19 activities the achievements in this State were the largest in respect of as many as 9 activities and second largest in respect of 4 activities. Yet, there has been somehow, a feeling that the most basic objective of the programme has not yet been achieved viz., the development of the Community itself and the creation of those "traits of mutuality which turn a group of individuals into a social organisation and which we have in mind when we speak of community as a quality of society". It is in this context that democratic decentralisation was conceived in Andhra Pradesh and the Andhra Pradesh Panchayat Samithis and Zilla Parishads Act was passed in 1959 under which a three tier system of people's institutions, the Panchayat at the village level, the Panchayat Samithi at the Block level and the Zilla Parishad at the District level has been brought into existence. The Samithis are in complete charge of administration

within the Block in the matter of its development including the implementation of the Community Development Programme. In pursuance of this objective, the functions of the various Development Departments of Government such as Agriculture, Animal Husbandry, Industries, Education, Women's Welfare, Co-operation and Social Welfare within the Block area are entrusted to the Samithis. Most of the functions of the former District Board such as Elementary Education, Public Health, Medical etc., and work relating to Minor Irrigation are also entrusted to them. The ultimate aim is to make the Samithis the sole agency for all development activities at the Block level. In the short period of one year of working of these institutions there has been evidence of keen enthusiasm on the part of people's representatives to shoulder the heavy responsibilities that devolved on them. They have shown such a maturity of judgement and restraint that was beyond all expectations of even 'Decentralisation' enthusiasts. With this brilliant record of performance, handing over more and more functions and responsibilities to these institutions has already become the only logical course.

It is our hope that with this institutional framework and with the necessary education, training and guidance of leadership from the humblest levels we would be able to succeed in fostering and creating in the community itself both the desire for its own upliftment as well as the energy and the organisation for achieving it and generate within our various village communities, self-propulsion so that they may all become dynamos of social energy that would develop the motive force necessary for the progress of our country.

**Overall Improvement in Economy**

While the foregoing are some of the concrete physical achievements during the Second Plan period, there has been a considerable improvement in the over-all economic situation in the State in the decade 1951—61 on account of the impact of the two Plans and the organised effort implicit in them as is evidenced in certain broad features of the economy of the State. Our net sown area in 1959–60 has increased to 28.7 million acres from 25.3 million acres in the first year of the First Plan. Of the sown area, the irrigated area formed over 23.7 per cent in 1950–51 but in 1959–60 it was 28.2 percent. We have succeeded in increasing food-grains production from 38.86 lakh tons in 1951-52 to 60.16 lakh tons, resulting in a surplus of 5.48 lakh tons in 1959-60. The productivity of our soils has also been improved. From 943 lbs. per acre in 1951-52, the production of rice has gone up to 1,131.4 lbs in 1958-59. Likewise, the per acre outturn of jowar, bajra, ragi, sugarcane, groundnut and tobacco has also increased between the years 1951-52 and 1958-59. A similar trend is recorded in the matter of industrial production too. The production of coal, cement, sugar, cotton, gur and paper, some of the more industrial products in the State, has increased in 1959 as compared to 1951. The generating capacity of electric power has increased from about 100 million kw. H in 1951-52 to about 639 millon kw. H in 1959-60 and it is further expected to rise to 800 million kw. H in 1959-61. The number of villages and towns electrified will be 2,585 in 1960-61 as compared to 270 less than a decade ago. To-day our *per capita* consumption of electricity is 15 units against 2.9 units in 1951-52. The State road mileage was also increased from 14,794 at the beginning of the First Plan to 19,435 by the year 1959. Equally significant has been our development of social services. The number of primary schools has increased by 5,863 and the number of middle schools from 160 to 736 (i.e.) about 5 times. The number of hospitals and dispensaries in 1951-52 and 1959-60 were 270 and 890 respectively, while the bed strength rose from 7,693 in 1951-52 to 17,334 in 1959-60. As a result of the various factors constituting economic growth, the State Income at constant prices which was estimated at Rs. 722 crores in 1950-51, the beginning of the First Plan, rose to Rs. 920 crores in 1955-56 and is estimated to increase to Rs. 1,076 crores in 1960-61. The *per capita* income during the corresponding period is Rs. 231, Rs. 728 and Rs. 302 respectively.

**Slow Industrial Expansion**

But we have not succeeded, to the extent we would like to, in the matter of rapidly industrialising our State. The contribution made by Industries towards the National Income of the State is at present low and is probably not larger than 6 per cent as against 25 per cent for the country as a whole. The *per capita* investment in industry is Rs. 10.68 against Rs. 46.1 of Bombay, Rs. 65.39 of West Bengal and Rs. 26.80 of Bihar. The contribution of State Income by Factory Industries in Andhra Pradesh is only 2.8 per cent only as against the All-India figure of 7.8 per cent. These factors have naturally resulted in certain lopsided development and inequitable distribution of the benefits of the Plan. An interesting study by the Economic Intelligence Unit of the Indian Institute of Public Opinion has revealed that the advance in the national income in Andhra Pradesh is 70.22 per cent against the All-India percentage of 86.38 and the percentage increase in the *per capita* income is 28.86 against the All-India figure of 40.39.

No doubt, the conditions favourable for a faster industrial development exist in more advanced States by virtue of their present position in the industrial map of the country, the ready response of the private sector, investible surpluses, managerial skills, technical know-how, etc. But these should be viewed against some historical background which pushed some of the States to the forefront in industrial advancement. By reason of the growth of industry largely out of trade and under the managing Agency system (which had its origin and organisational matrix in the port cities of India), until post-Independent years, the bulk of industry was largely concentrated around Calculta, Bombay and to a lesser extent, Madras. The concentration of major business houses in these Port States was also the main contributory cause for a large number of industries becoming established in these areas. There is prima facie a strong case now for planning a more even distribution of industries between regions and a balanced development of industrial towns to eliminate social evils. The rational for the dispersed development of industries lies, of course, in the considerable contribution which a planned and organised distribution of industries by their spread effects can make towards enabling the rural economy to achieve a break through, out of the vicious circle of low incomes, low productivity and low consumption which constitute the primary cause of the economic stagnation of our vast rural areas. Giving a prop to the industrially backward States is a must in the industrial policy of the country.

The problem of development is a continuing process. The efforts made in one plan will serve as the basis for further development during the succeeding plans. Till the economy reaches a certain propelling stage, it would need constant vigilance on the part of planners to plan, execute and review the programmes with a view to correcting maladjustments, if any. All this would indeed need sacrifice on the part of one and all and a determination to carry through the programmes for their successful end.

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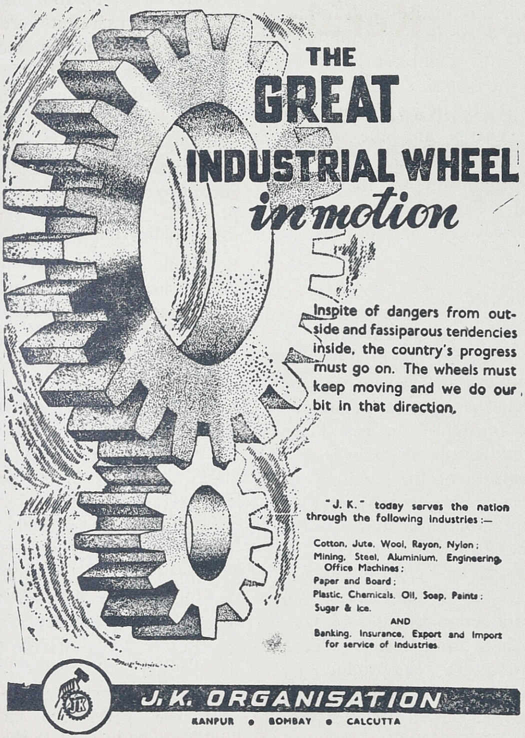

# Kerala

**K. A. DAMODARA MENON**

Minister for Industries, Trivandrum

The problem of unemployment is most acute in Kerala. This is accentuated by the great density of population, high degree of educational progress and inelasticity of opportunities of gainful employment. This problem trancends the state limits and has to be viewed as a national problem. The rapid industrialisation of the State in the only solution to this problem.

**Industrial Potentialities**

The State is endowed with considerable industrial raw material resources. The beach sands in Quilon district are rich in heavy minerals like ilmenite, monazite, rutile, zircon and silliminite. All along the coast there are large quantities of white sand suitable for the manufacture of high grade glass. There are vast deposits of China clay suitable for the manufacture of porcelain. Other varieties of clay are available in many places and they are being used for the manufacture of tiles and bricks. Deposits of graphite also occur in many parts of the State. The backwaters contain large quantities of lime shell which is being continuously replenished from time to time. This source of calcium carbonate is being used for the manufacture of cement. The State is also rich in its forests resources with different varieties of timber, bamboos, reeds, grass, fibre plants and also several items of minor forest produce. But only a small portion of the vast resources has been exploited so far. Fish and fish oil constitute the marine resources. Commercial crops like tapioca, sugarcane, cashew and rubber in addition to coconut products also provide valuable industrial raw materials. A techno-economic survey of the State is being undertaken by the National Council of Applied Economic Research at the instance of the State Government. The survey has just been completed and the report is awaited. It is expected that the report will give valuable information regarding the raw materials available for industry and the types of industries that can be established to exploit these raw materials.

For development of industries, increased power production is absolutely essential. The water resources of Kerala are considerable. But only a small portion of the same has so far been harnessed for power. The very nature of the land with high mountains on the eastern side and the narrow strip of midland between the sea and the Ghats makes the State ideal for development of hydel power economically. Power development is the basis of all industrial development. With the completion of the Pamba Kakki Hydel Scheme, which has now been sanctioned, this State would be in a position of unique advantage to provide cheap power for indus-

tries. There are also several other hydel projects which will be taken up during the Third Plan and these would ensure abundant supply of power.

**Industries in Kerala**

The industrial development of the State is of relatively recent origin. The former Travancore Government took active steps to establish certain important industries in the State by the grant of financial and other assistance to entrepreneurs. They followed a liberal policy in the matter of development of large scale industries holding out incentives to stimulate capital formation, themselves participating in the share capital structure of many industrial concerns. This policy, as well as the availability of rich forest resources and mineral wealth, the abundant supply of water, and the development of cheap electric power gave a stimulus to the setting up of industries covering a very wide and diversified field of production such as paper, cement, sugar, fertilisers, rayon, titanium products, rubber, etc.

**Progress During Second Plan**

The outlay during the First Five Year Plan for industrial development was not appreciable. The State of Kerala was formed during the Second Five Year Plan period. The size of the Kerala Plan was determined by an adjustment consequent on States Reorganisation. A plan of Rs. 87 crores was thus fixed upon as against an outlay of Rs. 30 crores in the First Plan for the Travancore–Cochin State. It was felt that even this outlay was too limited from the point of view of the State's requirements, especially in view of the most acute problem of unemployment. Out of the Plan outlay of Rs. 87 crores, the amount earmarked for the development of industries in the various spheres was Rs. 683.98 lakhs. The programme of major industries included in the Second Plan was anything but ambitious. However, with the assistance of the State such as participation in the share capital, grant of loans and other assistance, a few major ventures are being set up now. The Rayon Grade Wood Pulp Factory, the Premier Tyres, the Traco Cables etc., are instances in point.

At the beginning of the Second Plan period there were six medium industries owned and run by the Government. They are:—(1) Kerala Soap Institute, Calicut, (2) Government Oil Factory, Calicut, (3) Government Ceramic Concerns, Kundara, (4) Travancore Plywood Industries, Punalur, (5) Government Shark Liver Oil Factory, Trivandrum and (6) Travancore Rubber Works, Trivandrum. During the Second Plan period three other medium industrial concerns were started in the public sector. They are:— (1) Kerala Government Ceramics, Kundara, (2) Government Hydrogenation Factory, Calicut and (3) Kerala Government Cycle Rim Factory. The capital investment in the above three industrial concerns alone amounts to Rs. 79.33 lakhs. The work of establishing the Kerala Government Ceramics and the Government Hydrogenation Factory was initiated and completed much earlier, but actual production was started during the Second Plan period only. The scheme for the manufacture of cycle rims was one of the very few schemes included in the Second Plan for implementation in the public sector.

Other schemes for the development of major and medium industries in the public sector included in the Second Plan were (1) the establishment of a cotton spinning mill with 12,000 spindles at Trivandrum, (2) Development of mining and refining of China clay in the Government Ceramic Factory at Kundara and (3) Modernisation and expansion of cycle tyre production in the Travancore Rubber Works. All these schemes are under implementation and are either completed or nearing completion. It is expected that the Government Spinning Mill, Trivandrum, will go into production by the end of the Second Plan period.

The progress in the working of all the nine Government owned industrial concerns has not only been maintained but also accelerated during the Second Plan period with better working results.

Much headway has also been made in the establishment of Industrial Estates, organisation of small scale industrial units, promotion of Khadi and Village Industries, Handicrafts, schemes relating to coir development and handloom development.

**Third Five Year Plan**

We are now on the threshold of the Third Plan. The industrial development of the State has been given due importance in the State's Plan consistent with the need for rapid industrialisation and for solving the problem of growing unemployment in the State. Steps for the organisation of two major sugar factories in the co-operative sector costing about Rs. 300 lakhs have already been taken in advance of the Plan. Investigation for a third one in the Periyar Valley and another in Devicolom Taluk is in progress now. Progress in the setting up of the Rayon Grade Wool Pulp Factory, Premier Tyres, etc., is being accelerated. Active steps for substantial expansion of the existing major industries such as the F.A.C.T., Travancore Cochin Chemicals, Travancore Titanium Products, Ltd., Indian Alumi-

nium Company and Travancore Rayons are also in progress.

Taking into account the vast natural resources of raw materials, several new industries have been proposed in the Third Plan. The existing Government industries and the Government managed industries will be rehabilitated and expanded. The activities in respect of Government sponsored industries will also be considerably increased. The draft outline of the Third Five Year Plan for development of industries has thus been prepared, taking into account, the industrial backwardness of the State. Out of a total plan outlay of Rs. 170 crores, the amount earmarked for development of industries is Rs. 12.55 crores.

As regards the Central Government sector, steps are being taken for the establishment of two major projects, viz., the Ship Building Yard at Cochin and the Phyto Chemical Industries at Neriyamangalam. The work regarding the Forms Press at Koratti is expected to start shortly. A few more major Central sector projects are also expected to be located in Kerala during the Third Plan. The Technical Team of the Government of India on Heavy Electrical Projects have recently visited the State and inspected three sites, preliminary to taking a decision on the suitability of the site for establishing a Heavy Electrical Industry in the Central sector. It is hoped that the Unit will be established in this State.

The State Government have recently announced their industrial policy, which assures a peaceful industrial climate and holds out promise of financial and other assistance to large scale industries in the private sector. Provision of land by acquisition if necessary, supply of cheap power, assistance to obtain licences for establishment of industry and import of machinery and to obtain raw materials, financial participation in the share capital structure in suitable cases subject to the overall policy of the Government of India, the provision of loans and guarantees etc. are the main incentives offered by the State Government to the large scale industrialists in the private sector. The establishment of the Kerala Industrial Development Corporation under contemplation can undertake participation in the share capital structure of new and deserving industries and take up a lot of preliminary work in regard to the investigation of new projects, assist industrialists in investigations, negotiations, etc. and ultimately take up individual industries either on their own or in participation with private industrialists. It is worthwhile to mention in this connection that during the last six months, 35 new licences have been taken by private industrialists for setting up major industries in the State. Many new small scale industrialists have taken up the vacant sheds in the Industrial Estates and are setting up nearly 43 small scale units.

A new Industrial Estate is being set up in Calicut. Schemes for the establishment of some other major projects in the private sector with foreign collaboration for high tension insulators, a second tyre factory, a major fish processing industry with trawlers and factory vessels, a nylon factory and a titanium tetra-chloride factory are also under active consideration.

It is gratifying to note that after the announcement of the present Government of their industrial policy, several proposals for the establishment of large and medium industries in the State have been received from intending entrepreneurs. Some of the proposals have been finalised and a number of others are under different stages of examination. It is expected that the phase of industrialisation in this State which is gathering momentum now will become quite rapid during the course of the Third Five Year Plan.

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# Kerala Industries

**M. K. K. NAYAR**, I.A.S.
Managing Director, F.A.C.T., Alwaye

Kerala has advantages conducive to industrial development. Its main wealth consists of unlimited deposits of rare earths (monazite, limenite, etc.) evergrowing forests, dependable deposits of clay, plentiful supply for water and cheap power.

Besides, industries already established in the State produce a variety of materials essential for other industries. Above all, there is an abundant supply of educated man-power.

Compared to other major ports cost of handling cargo at the centrally-situated port of Cochin is reported to be the lowest in India today. Communications in the State are satisfactory, facilitating reasonable transport to other parts of the country.

**Rare Advantage**

Besides these, Kerala has another rare advantage in its inland water transport system which, through an elaborate net-work of backwaters and canal, provide cheap and efficient water transport to well-inhabited areas of the State.

Kerala's water wealth is a great asset for the development of cheap hydro-electric power which so far has been exploited to about only a twentieth part of the availability.

In the third Five Year Plan some major schemes are being taken up. Cost of generation of power in the State being the cheapest when compared to the rest of India, industries, that require large chunks of power would find Kerala an attractive location.

Another important factor necessary for industrial development is industrial peace. A feeling has gained ground outside Kerala that there has always been industrial unrest in the State. It is true that there have been a number of disputes in the past but industrial relations in Kerala have never been as bad as they have been painted to be. The State Government has in its statement on industrial policy stressed that it would endeavour to ensure industrial peace.

**Development**

Another interesting feature of the Government's policy is that it is prepared to subscribe to a certain extent to the share capital of new ventures. This should give an additional assurance to industrialists that the State Government will stand by its declared policy of maintaining industrial peace.

Major industrial production of Kerala at present include sulphuric acid, caustic soda, ammonium chloride, sulphurdioxide, rare earth chloride, thorium hydroxide, titanium oxide, monazite, ilmenite, aluminium ingots and structurals, aluminium wire, hard boards, clay products, rubber products, hydrogen chloride, chlorine and so on. Industries requiring these as raw materials can be planned with advantage in the State.

Kerala offers special advantages for the development of nylon yarn paper, chemical, engineering, steel re-rolling add other allied industries.

**Major Industry**

With a coastline as long as the State itself, fishing is a major occupation of the people living in the coastal region. A largescale industry, involving an investment of nearly Rs. 10 to 12 crores, for the exploitation of the fish reserves and their export can be established in Kerala.

With the decision to locate a second ship-yard at Cochin and a chemical industry at Neriamangalam, the public sector has already made a start in this direction. The private sector has, however, yet to make a real beginning. In view of the facilities available—and considering the fact that there will not be a more propitious moment for starting new ventures in Kerala—it is time now for the private sector to fully exploit the present climate and start several industries in the State.

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# Industrial Development in Andhra

K. PARTHASARATHY, B.A.

Industries form the "life-line" of a nation. More so if that nation, in the context of an advanced industrial age, has yet to press forward, in keeping pace with the international strides. Essentially an agricultural country like India, has its own industrial problems not merely due to inherent advantages and disadvantages, but also attributable to the cross-section of influences and speculations, both political and economic from international sectors. Yet India has diligently and admirably steered clear through major agitations and dictations both at home and abroad in the industrial sphere and has laid, though slowly but steadily enduring foundation, for a prospective industrial future. The vast sub-continent of India consists of many states, each state, more often than not, equals, if not overlaps, an European nation, in physical dimensions. And every state in India, has its unique features, in contributing to India's industrial development as a whole. India, comprises of 13 states and Andhra, more aptly called as Visalandhra, for its vastness of area, has both an autonomous and integral part in the progress of Industrial development of India.

At the very outset, of studying the Industrial Development in Andhra, it may be poignant to mention, that like the other states in India, Andhra Pradesh is actively engaged in exploring her natural resources and setting up new industries, on an abidingly vast magnitude. Of the many such new projects, the ship-building yard at Visakhapatnam, the hydro-electric Machkund project, the Nagarjunasagar project, the Singareni Collieries Company and a host of other potential and growing industrial enterprises,—all bespeak of the industrial advancement of Andhra Pradesh despite great impediments that crop up due to economic, political and psychological causes, when once the implementation of the schemes commences. With vision and fortitude, the Andhra Ministry, have fought many an incongruous and critical situation and have laid down a foundation, on which a frame-work of industrial development, is in progress though a little slowly but steadily.

Andhra Pradesh is a land of great antiquity and her physical features are remarkably suited for vast industrial development. The State of Andhra covers an area of 106,041 sq. miles and is inhabited by a population of different races and cultures, numbering to 35,977,999, as per provisional figures of 1961 census. It has a coast line of 600 miles and the State possesses a virtual chain of mountains—the Eastern ghats running over its almost entire length on the eastern and northern borders. Two famous rivers of southern India, the Godavari and the Krishna, with their tributaries, flow across the territory. Further the land is interspersed with a beautiful

net work of canals, which also serve as inland waterways. The climate is equable—warm and humid or hot and humid according to the season. The average rainfall is 35–65″. Andhra has much forest wealth which could be utilised with great advantage in the industriliazation of the state. The various forest areas in Andhra Pradesh aggragate to 14,026,000 acres, a very significant figure. It is admitted on all hands, that the state has vast potential possibilities owing not only to its geographical position, various natural advantages but also due to its " considerable mineral wealth." Consisting 20 districts and 183 taluqs, it has 1,000 revenue circles.

Andhra pradesh, like many other states in India is essentially, a state of villages which number to 26,450 and the area under crops is about 29,381,000 acres. In the context, it may be noted, industrilization, of the state has its own social and psychological inertia as the basic fact of agrarian population and interests, looms large before our minds. However the Andhra Government are ably and steadfastly handling the problems of the industries in the state. Foodgrains production in 1958–59 amounted to 61.56 lakh tons and this was achieved with 68 lakh acres of land which came under irrigation in the same year i.e. 1958–59. In the budget for 1961–62 the revenue figure comes to 85.12 crores and the expenditure to Rs. 87.62 crores. The size of the Third Five Year Plan is marked at 305 crores for the total outlay and a sum of Rs. 13.27 crores are alloted for the development of industries in the State, from the total out-lay.

The Andhra Pradesh Government have felt that in the state's present condition of inadequate industrialization, in view of its vast area and great potentialities,—the need of setting up corporations which could frame suitable and visible prospects and offer these to prospective entġrpreneurs. As such, not only the state, individually, but the private industrial magnates, could also work for the industrial penacia, of the state. In accordance with this constructive thinking, the following three corporations have been set up.

(1) Andhra Pradesh Industrial Development Corporation with an authorised capital of Rs. 3 crores and an initial capital of Rs 1 crore.

(2) Small-scale Industries Corporation with an authorised capital of Rs. 50 lakhs and

(3) Andhra Pradesh Mining Corporation with an authorised capital of Rs. 50 lakhs.

The setting up of these corporations have removed certain organic defects of industrial back-wardness in the state, more due to social and psychological elements than economic reasons :

(1) a certain lack of the necessary industrial climate has been removed.

(2) created the absence of incentives to induce industrialists to establish industries in the State.

(3) created the establishment of machinery which will be continuously in touch with the private sector and which could offer both technical advice and financial collaboration as necessary to make effective inducement.

These industrial corporations established in Andhra Pradesh have charted their activities with a view to accommodate themselves to the existing set-up of the industrial atmosphere which aims at improvement. In other words they have, not any regid but relaxable programmes according to the emergency of situation. The Andhra Pradesh Industrial Development Corporation which was registered on 16th December 1960 has already held two meetings and is processing the establishment of a certain number of projects. The Small-scale Industries corporation was registered on 1st March 1961 and the first meeting of its Board of Directors is expected in the near future. The Andhra Pradesh Mining Corporation was registered on 23rd Feb. 1961 and convened the first meeting of its Board of Directors on 9th March 1961 and has decided to embark on a number of projects almost immediately.

The industrial undertakings under central sector are receiving all possible considerations of the Government. However a record of the industrial production during 1953—59, unerringly will show the state's mighty interests in the industrial sphere.

**Industrial Production in Andhra Pradesh in 1953—59**

| Industrial Product | Unit | Production in 1953 | 1955 | 1959 | % increase in 1959 over 1953 |
|---|---|---|---|---|---|
| Cotton yarn | 7000 lbs | 18,465 | 23,239 | 33,213 | 79.8 |
| Jute products | 1000 tons | 25 | 26 | 30 | 20.0 |
| Sugar | ,, | 67 | 118 | 126 | 88.0 |
| Cement | ,, | 209 | 204 | 580 | 177.5 |
| Paper | ,, | 18 | 15 | 25 | 38.9 |
| Coal | ,, | 1,330 | 1,470 | 2,260 | 69.9 |
| Cigarettes | lakhs | 42,529 | 44,608 | 68,827 | 61.8 |

And now a study of the industrial enterprises individually will reveal the progress they made and the future that lies ahead of them with promise.

The ship building yard at Vishakapatnam is a couspicious and huge maritime enterprise adding to the national core of economics. It has a capacity

for the production of four diesel-driven ships per annum. The Central Government have made a provision of Rs. 1 crore for the development of this shipyard to increase its capacity to six ships per annum.

The Praga Tools Corporation, Hyderabad are manufacturing Rs. 72 lakhs worth of equipment, consisting of machine tools such as milling machines and drilling machines, railway equipment, cutting tools, auto-diesel spares and measuring tools etc. In view of its progress and utility, the Government of India, have undertaken to assist in the expansion of its capacity by subscribing to an additional capital of Rs. 84 lakhs. Foreign trained, technical personnel is being absorbed to improve the quality and quantity of this industrial corporation. The Praga Tools Corporation is expected shortly, to be one of the best of its kind in India.

So far as synthetic drugs project is concerned, there were vigorous propositions going on between the Central and the Andhra Government and recently the Government of India have decided to set up a synthetic drugs project in Andhra Pradesh during the Third Plan period.

Under large and medium industries in the public sector, there are two state-owned commercial undertakings in the state viz. the Andhra Paper Mills, Rajahmundry and the Government Ceramic Factory, Gudur.

A scheme for expansion of the Andhra Paper Mills, Rajahmundry, by another 50 tons per day, from its present production capacity of 10 tons per day, was included in the Second Plan. The site has been properly chosen and the building construction work will shortly commence. For the supply of necessary plant and machinery, an agreement has also been entered into with M/s Empacel, Paris, France. In the Third Five-Year Plan, this scheme expected to be completed by 1963. As a result of this expansion, it is expected, the production in this mill will be increased to about 18,000 tons per annum. In the main, the mill is directed and designed to produce writing, printing and wrapping papers.

The Government Ceramic Factory, Gudur, has a scheme for reorganisation. Even in the Second Five-year Plan, it was laid out; that a scheme should be implemented, for the construction of Tunnel Kiln and for the introduction of manufacture of electrical porcelain insulators, as an addition line of production and the former part of the scheme has already been completed and the production of electrical insulators has also been commenced. With the implementation of this scheme, the production in this factory, has been doubled. In the year 1956 the turnover was only Rs. 1,79,451, which has increased to Rs. 4,62,743 during 1959-60. The Factory has also earned a net profit of more than a lakh of rupees during 1959-60.

The Government Power Alcohol Factory at Shakkarnagar, Bodhan is connected with the Nizam Sugar Factory. The Factory was licensed in 1953 to produce 1,00,000 gallons of industrial power alcohol per month. The factory has been further licensed to expand its production by an additional 90,000 gallons per month and the expansion programme has been completed.

As there is ample scope for the establishment of a large-scale fertilizer Plant in Andhra Pradesh, the State Government have taken steps to establish a fertilizer factory at Kothagudem. Andhra Pradesh is indeed a major consumer of fertilizers, its present demand being of the order of 2 lakh tons per annum in terms of ammonium sulphate. The presently contemplated fertilizer plant at Kothagudem is designed to operate with the following capacities :

| | | | Tons per annum |
|---|---|---|---|
| 1. | Urea | — | 100,800 |
| 2. | Nitrophosphate | — | 119,200 |
| 3. | Ammonia | — | 105,600 |
| 4. | Nitric acid | — | 79,200 |

In addition, manufacture of complex fertilizers under private sector is also contemplated and proposals for the establishment of a fertilizer factory for the same are also under the consideration of the Government. To step up industrialization in the state to the peak point, possible in the context of the present circumstance, the Andhra Pradesh Industrial Corporation, in particular was registered in the year 1960 and the work of organizing and promotion of new industrial projects is ahead despite many impediments.

Among the four highly mineralized states of India, Andhra Pradesh is one and has vast potentialities of mineral wealth. It is endowed by nature with a huge range of mineral deposits. In order of abundance, the State's reserves of coal, iron ore, manganese ore, barytes, limestone, asbestos, china-clay, quartz, graphite, mineral pigments, marble and steatite are self-sufficient, for the growth of mineral-based industries within the state. Next to Madhya Pradesh and Mysore, the State's resources of precious metals (gold) and diamonds are vast enough to promise a bright future, when the latest technical methods,

offered by the advance of science, are diligently employed to exploit the mineral deposits. There is a surplus of minerals like barytes, limestone, marble and probably mica, in the State. The state is self-sufficient in asbestos, ceramic and refractory minerals, quartz silica sands, mineral pigments, iron ores and manganese ores.

The important minerals produced in the state are asbestos, barytes, coal, chromite, iron ore, manganese ore, kyanite, mica, beryl, china clay and limestone. There are also occurances of graphite, steatite, ilmenite, gypsum, ochres, fire clay, apatite, quartz, gold and diamonds.

Andhra Pradesh comprises of three major geographical units: the Circars, the Rayalaseema and the Telengana of which the Rayalaseema and Telengana are economically back-ward areas, but due to its rich deposits of mineral wealth, has admirably counteracted the malefic tendencies and presses forward with an assured future. Besides the abandoned diamond mines and gold mines with the contiguous belts still unexplored in the Kurnool, Mahbubnagar, Anantapur and Chittoor districts need special mention in view of their vast potentialities.

The asbestos deposits in the state are the only important source of the chrysotile variety (spinning grade) in India, and this is the only state which can bridge the gap between the country's requirements and actual supplies of this mineral to save the much needed foreign exchange. Perhaps, practically all the barytes mined in India comes from this state. The coal fields in the state are the only important fuel source for the entire South India.

The minerals which need to be conserved for future development of industries are iron ores (58 to 60% iron) manganese ore, chromite asbestos, barytes, graphite, gypsum, ochres, fire clays and china clay, steatile, apatite, quartz and high calcium limestones including lime shell deposits.

Apart from the estimate and utility of different mineral resources available in the state, the new lines of development of the mineral-based industries in the state, are

(1) asbestos crushing and screening plant

(2) barium chemicals

(3) Distempers and high grade paints

(4) clay levigation unit

(5) ceramic ware, refractory silica and fire bricks

(6) low temperature carbonisation

(7) benificiation of graphite

(8) cement factories

(9) sheet glass

(10) phosphatic fertilisers and

(11) low shaft smelting of iron-ores.

It is assuredly expected, from the probalility of conducive factors that most of the industries envisaged above, would be established in the state before the close of the third Five Year Plan.

The Coal Industry of Andhra Pradesh is a mighty chapter in the National economy of our country, India. The origins and development of the coal-ming industry in Andhra Pradesh reads like a romance. The coalmining activities in the Godavari Valley coalfields in Andhra Pradesh here first started as far back as 1886 at Singareni, from which the Singareni collieries company derives its name. From 1948 onwards, the industry took rapid strides. The pace of its advancement has been greatly accelerated. Under the perview of the company four different areas, operate viz Kothagudium and Singareni collieries in Khammam District, Bellampalli in Adilabad District and Ramagundam collieries in Karimnagar District of Andhra Pradesh. The coal reserves of these areas are estimated to be 3,400 million tons. The company has a subscribed capital of Rs. 3 crores. The equity shares are being held by the Andhra Pradesh Government and the Government of India in proportion of 3:2 respectively. The reserves of the company exceed Rs. 1 crore.

To meet the rising demand for coal in South India, the company launched on an expansion programme in 1948 to raise the production from about one million tons to two million tons annually by 1958. This programme was subsequently dovetailed into the Second Five Year Plan which envisages an annual out-put of three million tons by 1961/62. The Second Five Year Plan is estimated to cost Rs. 757·56 lakhs which is being jointly financed by the Andhra Pradesh State Government and the Government of India.

The Third Five-Year Plan is in the making and the blue-print of it aims is to raise the production to 5·65 million tons by 1965/66. The capital required for this scheme is estimated at 20 crores. Undoubted coal-mining industry in Andhra Pradesh has ever growing potentialities and the government of the state too are striving their best to keep the industrial advancement well sustained, enviable and as rearing back-ground for other industries to develop.

**The coal production since 1950 is given below year by year.**

| Year | Lakhs of tons |
|---|---|
| 1950 | 11·62 lakhs of tons |
| 1951 | 12·07 ,, |
| 1952 | 13·75 ,, |
| 1953 | 12·72 ,, |
| 1954 | 14·58 ,, |
| 1955 | 15·26 ,, |
| 1956 | 16·82 ,, |
| 1957 | 19·19 ,, |
| 1958 | 21·16 ,, |
| 1959 | 22·30 ,, |
| 1960 | 26·15 ,, (estimated) |

The target of Production by the Third Five-Year Plan to be made by 1965/66 comes to 5·65 million tons and to achieve this target, three new areas, one in Kathagudium coalfield and two in Bellampalli coalfield are being developed. Provision has been made not only to achieve the target fixed but also to make up the loss of production due to closure of older mines.

With regard to plant and machinery about Rs. 5 crores required for the plan has been ordered. Foreign exchange provision has been amply made for importing machineries from abroad, by the Government of India. Already to the extent of Rs. 2.45 crores of foreign had exchange been obtained.

The demands of the new mines, the capacity of the power house at Kothagudium has been increased to 17,500 K.W. Further arrangements have also been made to take power supply from the Goverment Power Station at Ramagundam to the extent of 4,000 K.W. for the present to meet part requirement of Tandur Collieries and 12,000 K.W. for Ramagundam.

The Government of Andhra Pradesh has many progressive schemes immediately connected with the industrial advancement of it. The sand stowing scheme is also one among such. Sand stowing equipment including an Aerial Ropeway 7.7 miles long for Hydraulic stand stowing to safely extract coal, from the thicker seams at Kothagudium, at an approximate cost of Rs. 5.5 million is being constructed.

There are also new Major Industries under the consideration of the Government of India at the strong stress of the State Government.

**Iron and steel/pig iron plant.** The State Government have been urging the Government of India, to set up in the central public sector, an iron and steel plant for which the state has necessary iron ore, coal and limestone. In 1960, a committee visited Hyderabad and collected some data. Huge bulk samples of these three kinds of raw materials are being sent to the laboratory at Jamshedpur for analysis and a prospective future awaits.

Low Temperature carbonisation plant is being reconsidered by the Government of India for Andhra Pradesh. In the event of the Government of India's immediate inability to take up the issue, it is proposed the Singareni Collieries Company shall shoulder the task.

**Hundred tons per day paper plant from Bagasse at Shakarnagar·** The committee set up by the Government suggested that the Nizam Sugar Factory along with the Government, could take a lead in the matter and set up the unit, securing necessary collaboration and foreign credit. Subsequently however there has been an offer, from a private company of a package deal, consisting of three units involving a capital outlay of about Rs. 20 crores for the production of pulp partly for paper and partly for Rayon. This promises a welcome addition to the States Industry and the final conclusion in this matter will be shortly made.

With a view to accelerate the industrialization of the state, besides the regular industrial estates in almost all the districts, three Major Industrial Development Areas will also be established. On the whole, an industrial conciousness and an industrial atmosphere prevails in Andhra Pradesh to-day. Shortcomings it has, but advantages exceed and excel. Assuredly, in the Industrial map of India, Andhra Pradesh occupies a prominent place and is hoped to become more conspicious in the near future.

In the words of Cicero " Industries play a vital part in the National economy of a country and the destiny of an industry is not entirely dependent on natural resources, but on the human resources which harness them to the purpose and welfare of man." Andhra Pradesh has a great industrial potential. Its leadership is diligently keen about it and earnestly striving to accomplish results.

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# Management of Small-Scale Industries

Y. A. FAZALBHOY

The success of the small enterprise in our country is a vital factor for our economic development. Success of an enterprise depends, among other things, on management. In the report of the Indian Productivity Team which went to U.S.A. in 1959, it has been very significantly pointed out that the "key to all productivity is managerial efficiency and all techniques and methods for improving productivity ultimately depend on this."

Whilst such statements are easy to make, it is very difficult to understand what is really involved. The fact is that Management is dependent on many important and scientific factors. It is also very vital to recognise the need for proper and scientific management because if our present economic system is to survive, then a great deal will depend on the tone of our management. It is, therefore, very important to study the principles which guide the efficient functioning of an enterprise and also to know how to develop and improve the calibre of the people associated in managing an enterprise.

An enterprise operates for profit and an enterprise plans for growth as well. Since the key to efficiency is good management, we can conclude that for the good of the individual as well as the nation, good management has to be created.

What are the functional aspects of management? Management function comprises four elements, viz., (i) Planning; (ii) Organizing; (iii) Integrating and (iv) Measuring (motivating). These may appear to be big words. It may also be felt that good management and management functions are really the concern of large enterprises. But, the small enterprise presents, as far as management is concerned, the same problems and its activities are basically similar to that of large organisations. Small enterprises have greater flexibility which helps in adjusting programmes and because of their low over-heads, specially when it is an industrial enterprise, the development of a product is greatly helped. During the Third Five-Year Plan, it has been explained that small enterprise will have to make more and more products to help larger manufacturing units to be self-sufficient.

The four elements which I have mentioned above embody the basic principles of management. It must be realised that even in a small enterprise, whether having a single proprietor or two or more partners, those who own and operate the business are in the profession of managing. The profession of managing is a dynamic profession and it is

governed by principles and theories as any other profession.

The four elements of managing are:

1. *Planning*: Here the objectives are laid down and the policies and procedures to attain the objectives are determined. One has to have a clear vision of what one wants to achieve and how to achieve it.

2. *Organising* means creating the structure to carry out policies and procedures to achieve the objectives. The total work to be carried out is analysed and described; the personnel for carrying out this work is selected and authority and responsibility delegated to each for carrying out this job.

3. *Integrating* is the process of co-ordinating the efforts of individual workers in such a manner as to inculcate in them unity of purpose and the will to accomplish the task. The individual should be inspired to discipline himself in team work; his personality and his creative abilities brought out.

4. *Measuring* (Motivating) is the process of taking stock of achievements in terms of the objectives. Decision making is a process of management. Facts drawn from correct and authentic records have to be analysed and studied with reference to existing conditions and likely trends. Measuring would imply also laying down standards of performance. This makes it possible for individuals to discipline themselves to reach and exceed the standards. The management too can check individual accomplishment against the expected standard and rectify any imbalance.

Managing involves also leadership of the people. It involves managing people. If all the management functions have to be carried out, the top-man himself cannot be the one who will carry out all of them. The men in the organisation will have to be motivated to carry out the functions. The basic fact in motivating will be manager's ability to provide opportunities for the individual to give his best at all times. This is possible only through an intelligent understanding of human behaviour under working situations and recognition of motivating factors such as the desire to earn more, the desire for status, recognition and approval and the desire for security. The employee should feel assured that he has the fullest scope of advancement commensurate with his abilities, and talents and every possible assistance and encouragement to develop his latent qualities should be offered to him.

We have seen that too often a small enterprise fails because financial planning was not accurately done. Finance Planning depends upon accurate forecasting of production requirements and labour. Similarly, expenses have to be planned for which purpose profits will have to be forecast. Trained people are needed to submit reports and to study them and let the manager have the relevant data on the basis of which he can analyse the budgets and set targets to be achieved.

Executive duties are divided so as to come under different departments so that the work could be better performed by different persons. Once an organisation in set up and administration chart is prepared, it helps greatly in the proper delegation of duties. In this manner, a mechanism is provided whereby people in the organisation assume more and more responsibility as the business grows. An important managing function is the fixing of responsibility. It is the sign of growth of an enterprise.

There are also certain other principles, viz., communications within an organisation, i.e., who reports to whom, which is also a very vital management function. The various principles of the science of managing have to be appreciated and acted upon if an enterprise is to earn increasing profits and grow.

The functions of planning and organising or of selecting and delegating are, in effect, the building up of the personnel working in the organisation into an effective team. It is very important that the persons responsible for management should always be in a position and be prepared to delegate to their principal subordinates some of the work which they consider as their own, e.g., preparing the preliminary details for a plan or the responsibility for carrying out and executing the plans.

To conclude, if we desire good management, then those who manage the small enterprise will have to appreciate that they must study the science of managing and practise it. ⁂

# National Small Industries Corporation

### Government Purchase Scheme Forges Ahead

Contracts valued at Rs. 3.86 crores were secured by the small units from the D.G. S. & D. during the year 1960–61 with the assistance of the National Small Industries Corporation. The value of contracts secured by small units since the inception of the scheme aggregated Rs. 9.75 crores. The impact of the progress would be evident from the following statistics :

(Value in crores of rupees)

| | 1957–58 | 1958–59 | 1959–60 | 1960–61 April-Oct. 1960 |
|---|---|---|---|---|
| Total purchases from indigenous sources | 158·91 | 161·38 | 152·83 | 73·51 |
| Total purchases from small scale units | 1·96 | 3·91 | 3·19 | 3·23 |
| Purchases from small scale units assisted by the Corporation | 0·62 | 2·56 | 2·65 | 2·16 |

A comparison of 1957–58 and 1959–60 figures reveals that while the quantum of total purchases from indigenous sources decreased by 4.5 per cent, purchases from small scale industrial units increased by nearly 63 per cent. 83 per cent of the orders secured by the small scale units in the year 1959–60 were through the assistance rendered by the Corporation; for the period April—October 1960 the orders secured by the small units with the assistance of the Corporation formed 67 per cent of the total orders secured by the small units.

### Hire Purchase Scheme Gathers Momentum

During the year, 2048 applications covering 8,249 machines valued at Rs. 9.58 crores were accepted. Orders were placed for 2,325 machines valued at Rs. 2·75 crores, while 1187 machines valued at Rs. 1·12 crores were supplied on hire purchase basis.

Compared with the figures of the previous year the Corporation received 71 per cent more applications during the year for 52 per cent more machines; 98 per cent more applications were accepted for 93 per cent more machines for over 110 per cent more value. 96 per cent more machines were offered

during the year whilst earnest money was received for only 52 per cent more machines. Orders were placed for 73 per cent more machines of 20 per cent more value.

**Export of Shoes Accelarated**

The Corporation is considering plans for developing new Centres besides the existing 3 at Agra, Bombay and Delhi, with a duel objective of augmenting its production capacity for executing export orders and promoting the production of quality shoes in the country. The value of shoes exported during the year amounted to Rs. 69·21 lakhs as against Rs. 37·00 lakhs and 42·70 lakhs in the years 1958–59 and 1959–60 respectively. There has been a rise of 62 per cent in the exports of shoes during the year 1960–61 as compared to the year 1959–60.

**Standardisation of Small Scale Industries Products Encouraged**

The wholesale Depot set up by the Corporation at Agra for marketing leather footwear, conforming to the standard specifications, recorded a sale of shoes worth Rs. 5.65 lakhs—112 per cent of the performance in the previous year.

With a view to extending the activities of internal marketing of shoes, the corporation proposes to set up 4 depots: one at Agra and the remaining three at respective Branches of the corporation. In each depot, there will be a prestige shop; these shops will ultimately be located in Delhi, Madras, Bombay and Calcutta. Besides these shops, each Depot will have 13 sponsored shops. The details for setting up one shop at Delhi and 13 sponsored shops in the Northern Region are being worked out and the beginning for implementing this programme will be made shortly.

**Re-orientation of Marketing Programme**

The marketing assistance programme of the Corporation has been constantly under review. The Pilot Centre which had been set up at Delhi in April 1960, with a view to gaining reaction from the industries as to the utility of the services of the Corporation, passed on orders for goods worth Rs. 84,000/- to the manufacturers for execution directly. The experiment has proved successful in its objective in bringing manufacturers and retailers into contact. The salesmen have also been preparing reports on the consumers' reaction on the products introduced in the market and have been suggesting methods of improvements in the quality of the products to the manufacturers concerned. The manufacturers have not only known the marketing channels of their products but also have improved their quality. The scheme which is at present restricted to the Northern Region only, will be extended to other areas.

**Increased Supply of Raw Materials**

The raw material depot set up at Ludhiana in April 1958 for supply of Iron and Steel to the small units in and around the area, registered a sale of Rs. 23.63 lakhs—103 per cent of the performance in the previous year.

**More units received imported components**

The number of cycle assemblers receiving imported cycle components from the Corporation which was only 61 in the year 1957–58, has now increased to 150. Orders for cycle components worth Rs. 56.50 lakhs were placed during the year 1960–61 as against orders for Rs. 44.36 lakhs placed in the previous year.

Since the licensing period September 1959—March 1960, the Corporation has undertaken import of knitting needles also for supply to hosiery industries. During the year 1960–61 orders for knitting needles worth Rs. 6 lakhs were placed.

**Prototype Production and Training Centre, Okhla Goes into Operation**

The 2nd March 1961 was a red letter day in the history of the Project when the Centre was formally inaugurated by Prime Minister Nehru. The Centre is now formulating a detailed manufacturing schedule for the production of three machines, the manufacturing rights of which have been given free by the Government of West Germany.

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# Industrial Estates

The programme of setting up of Industrial Estates for small scale industries has made considerable headway. These Industrial Estates are intended to provide better accommodation for housing industries with facilities of power, water and transport and other external economies for their advancement like establishment of common servicing centres, introduction of modern techniques, collective purchase of raw materials and sale of finished products and cultivation of cooperative spirit among manufacturers.

Of the 120 Industrial Estates planned, 105 were sanctioned by the end of the Second Plan period. Of these, 52 Industrial Estates have already started functioning. Another 14 Estates which have been completed are likely to start production shortly. Besides these, 24 Industrial Estates are under construction. By the end of March, 1961 an amount of Rs. 10.03 crores had been spent by the State Governments and the National Small Industries Corporation towards construcrion of Industrial Estates.

The 52 Estates which started functioning with 1049 factories provided employment to over 13,000 persons. The value of quarterly production has been estimated at Rs. 3.5 crores. The Statewise break-up of these estates with their location is given below :—

*Andhra Pradesh*

1. Sanatnagar
2. Vijayawada
3. Samalkot
4. Visakhapatnam

*Assam*

1. Gauhati
2. Dhekiajuli

*Bihar*

1. Patna
2. Darbhanga
3. Bihar-Shariff
4. Ranchi

*Maharashtra*

1. Kolhapur
2. Hadapsar
3. Karad
4. Nagpur
5. Amravati

*Gujarat*

1. Rajkot
2. Baroda
3. Udhna
4. Gandhidham

*Jammu and Kashmir*

1. Gandhinagar
2. Srinagar

*Kerala*

1. Pappanamcode
2. Ettumanoor
3. Kollakadavu
4. Olavakot
5. Ollur

*Madhya Pradesh*

1. Indore
2. Gwalior
3. Bhopal

*Madras*

1. Guindy
2. Madurai
3. Trichy
4. Erode
5. Virudhunagar
6. Marthandam
7. Pettai

*Mysore*

1. Mysore
2. Bangalore
3. Hubli

*Orissa*

1. Cuttack
2. Rourkela

*Rajasthan*

1. Jaipur
2. Bhilwara
3. Makhupura

*Uttar Pradesh*

1. Kanpur
2. Agra
3. Naini

*West Bengal*

1. Baruipur
2. Kalyani

*Delhi*

1. Okhla

*Punjab*

1. Ludhiana

*Tripura*

1. Arundhutinagar

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# Acc - Vickers-Babcock Limited

An important milestone in the history of The Associated Cement Companies Limited was the formation of ACC-Vickers-Babcock Limited in January 1959, in collaboration with Vickers Limited and Babcock & Wilcox Limited, two world-renowned British Companies. ACC holds 49.8% of the Equity Capital of the Company, and Vickers and Babcock together hold a further 49.8% of the Equity Capital. The total investment in this Project (including borrowed capital) will exceed Rs. 10 crores.

ACC-VICKERS-BABCOCK LTD. (ABV) has been formed with the object of setting up a plant at Durgapur, West Bengal, for manufacturing Cement Making Machinery, Mining Equipment and 'Babcock' Steam Raising Plant. It will make a considerable contribution towards the targets set by the Government for the manufature of this equipment under the Third Five Year Plan. Remarkable progress has been made since the formation of AVB. The construction of the works is well ahead of schedule and production is expected to start soon.

The Workshops, designed on modern lines by Messrs. Balfour Beatty & Co. Ltd., a firm of British Consultants, have been built partly from Indian steel and partly from steel imported from the U.K. The Shops are equipped with electrical overhead travelling cranes, three of which have a lifting capacity of 70 tons each. All the Shops have been designed so that there is room for progressive expansion.

A large number of the machine tools are being supplied from the U.K. These will include a 3,000 ton Hydraulic Press capable of bending steel plates up to five inches thick, for use in the manufacture of high pressure boiler drums, heat exchangers and pressure vessels for the fertiliser, chemical and oil refining industries. The 22-ft. vertical borer which is being installed will be one of the largest of its kind in India.

Since the manufacture of boilers involves the most advanced welding techniques, the latest equipment required for the purpose is being installed. Also being installed is X-Ray Equipment operated by 1000 curies of high intensity cobalt '60' and capable of penetrating six inches of steel. A large annealing furnance, 22' x 56' is being supplied from the U.K. This furnace will be used for stress relieving not only welded boiler drums and pressure vessels but also welded shells of tube mills and rotary kilns.

AVB has acquired Babcock & Wilcox India Limited, which Company will be responsible for the erection and servicing of boiler plants and pressure vessels manufactured by A.V.B.

The Company has, in addition to other orders, obtained an order for the supply of four water tube boilers to the Government of Maharashtra for the Power Station at Khaperkheda. These will be the Babcock Radiant-type boilers fired by automatic spreader-stokers with a total steam-raising capacity of 3,26,000 kilograms per hour at 62 kilograms per sq. cm. with a super-heated steam temperature of 496°C. At least 20% of this order will be manufactured in India, the balance being imported from the U.K. This order will provide the Workshops of A.V.B. with an initial load. Subsequent orders will contain a much higher percentage of components manufactured in India.

AVB has also secured orders for the manufacture of cement making machinery. This machinery will be manufactured according to designs developed by AVB in collaboration with ACC and Vickers Ltd. and by adopting the designs of the Fuller Company of America for certain specialised items.

After the completion of the first stage of the Project some 1,500 persons will be employed and they will be housed in a self-contained garden city. Over 600 quarters are under construction of which the smallest for the lowest grade artisan will contain a living room, a bedroom, a kitchen and a separate lavatory and bathroom. All the quarters will be provided with running water, electricity and modern drainage.

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# The Hanover Fair 1961

**Meeting place for International Economy**

Continued lively interest from abroad-Active demand at home. North American Economic Congress created new contacts.

In the course of its 10 days' duration the Hanover Fair 1961 once again proved to be a barometer of the economic situation. Even more than previous occasions it was a measure for technical progress. 5120 manufacturers, of which 1015 from abroad (1960 : 836) with their wide and usually complete range of products attracted numbers of visitors which by comparison with last year were in many branches—including the *clocks and watches industry*, *fine mechanics and optics*, *electrical industries and mechanical engineering*—in spite of continued bad weather described as much greater previously.

Also trade buyers from abroad this year appeared in Hanover in greater numbers. By the seventh day of the fair the number of rooms let to foreign guests was as great as for the entire fair in 1960. Without doubt there is a close connection between the increased numbers of foreign exhibitors and the larger numbers of visitors from abroad, including various delegations which this year came to Hanover. The Trade Fair alone received 47 delegations from about 30 different countries. In most cases the groups were led by ministers or other leading personalities of political or economic life.

**Opinions vary concerning the higher valuation of the Deutsche Mark**

In connection with the question of the effect of the higher valuation of the Deutsche Mark upon exports, which had already been discussed before the Trade Fair opened, no defenite answer was found in the course of the fair. This was doubtless due to the very different state of competition in the various branches and the great variety of the display. On the one hand the number of foreign visitors proved that German products are of interest abroad not least because of their quality and are still in demand. On the other hand in consideration of the altered exchange rate many firms are paying particular attention to their foreign customers in an effort to overcome this difficulty. Apart from this a number of branches drew attention to the more intense competition which led to difficult negotiations during the fair. Unfavourable reports on the increase of the DM-currency value were received from among others the groups *precious metal industries*, *EBM-industries*, *cutlery and tableware*, *jewellery and silverware*, *clocks and watches*, *tools*, *radio and television industries*.

**Most prices remained steady**

The Hanover Fair 1961 proved to be particularly important in regard to the intensity of the sales

discussions which in most branches commenced already on the first day of the fair and were carried on for its whole duration. The steadiness of the prices was in the opinion of exhibitors as well as visitors characteristic for this year's fair. Revisions upwards were limited to very few special branches. On the other hand there were certain revisions in a downward direction e.g. in some branches of the *office equipment industry*. In many cases the main theme of interest was the delivery period. Some foreign exhibitors profited by reason of their shorter delivery terms and it became clear at this fair that in both the home and the export trade favourable delivery periods were an important sales argument. This was especially noticeable in the case of certain groups of *machine engineering, tools industries, locks and fittings industries and hardware*.

**Buyers from 95 nations—Foreign exhibitors satisfied**

As in former years the foreign visitors also this year were definitely noticeable. Buyers from 95 nations were recorded (1960 : 103 nations). Leading among them were as in previous years the Netherlands, followed by Denmark, France, Switzerland, Sweden, Belgium and Austria. This selection of countries shows that the German Industries Fair has a function to fulfil both for ECM—and the EFTA—countries.

Although they were on the whole satisfied with the interest shown by foreign visitors German exhibitors in certain branches including the *precious metal industry, the jewellery and silverware industry* and the clocks, watches and glassware industries found that trade interests in various Central and South American States and also in parts of North America and the Near East were less numerously represented than formerly.

The firms in question were of the opinion that this might be due to quota difficulties and an insufficiency of import licenses.

Investigations made by the Society for Market Research of Hamburg at the end of the fair showed that roughly 80% of the foreign visitors came from Europe and 20% from overseas.

It must be emphasized that 75% of the foreign visitors were specially interested in particular branches, whilst 25% of them first had a general look round. Less than half of the foreign visitors were in Hanover for the first time and more than 50% may be regarded as 'old customers' The 1961 Hanover Fair furthermore confirmed that the demand of foreign firms for exhibition space in Hanover continues and as a result of the satisfactory experience at the fair is increasing. The extension plans of the Messe-AG for the year 1962 which are to serve a more complete display caused a number of foreign exhibitors to express a wish for increased space and other potential exhibitors made application for admission.

In many cases the foreign exhibitors were more satisfied than the German firms. This applies to the business results achieved this year as well as to the follow-on business to be expected.

**Where Science and Engineering Meet**

Once more the Hanover Fair was a meeting place for representatives of science and engineering. This was not least due to the wealth of technical developments and novelties on display which were specially noticeable in the groups *mechanical engineering electrical industries, chemistry, fine mechanics and optics* and various branches of office equipment industries. The congresses of the post office—and railway engineers, the building trade and meetings of a number of associations and organizations were all very well attended. Participants in these gatherings had the opportunity whilst here to study the display of the branches of interest to them and to discuss the exhibits with responsible members of the firms exhibiting.

It was equally important for the engineering and the commercial experts to study the many machines, plants and tools serving automation and rationalization with the important aim of saving time and labour. This was especially noticeable at the exhibitions of the *mechanical engineering, electrical, office equipment*, and tools industries.

**The office equipment, tools and clocks and watches Industries**

In reports issued by their associations—described the Hanover Fair of 1961 as the best for many years. It is also worth noting that 75% of all the exhibitors asked on the eighth day of the fair could point to promising business negotiations from which a good after-fair business with their German partners might be expected. 60% reported similar promise in respect of exports.

**North American Economic Congress received much attention**

The North American Economic Congress brought together 180 experts from the USA and Canada and 350 interested persons from Europe—mainly from the Federal Republic of Germany—for discussion of economic questions of common interest to North America and Europe. The importance of this meeting on the 5th and 6th May was underlined by the presence of the Federal minister of Economics Luther H. Hodges, the Canadian Ambassador in Bonn, Escott, M. Reid, and Secretary General of the OEECOECD, Professor Thorkil Kristensen, who with their speeches and participation in the debate made important contributions to the discussions. The ideas and proposals for a closer economic cooperation between North America and Europe and common assistance for the development countries put forward by North American and German speakers are to form a foundation for the future cooperation. ***

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The Hanover Fair in 1962 will be open from 29th April to 8th May.

# The Take-Off

Kumari VASANTHA

**Devidayals**

The Chief Minister of Maharashtra inaugurated the new cable factory of Devidayal Cable Industries Private Ltd. near Thana. The new cable factory is equipped with the most modern plant among which the continuous vulcanizing plant is reportedly the only American Plant in India.

**Kamanis**

Kamani Tubes P. Ltd., will start manufacturing pipes and tubes of brass and copper by the end of this year. The initial production will be 1,000 tons which will be increased to 2,000 tons by the end of the 1962. Kamani Tubes are manufacturing extruded rods and sections since 1960. The authorised capital of Kamani Tubes is one crore of rupees. The company will earn foreign exchange to the tune of three million rupees after taking into account the cost of imported raw materials.

**IFC Loans**

The Industrial Finance Corporation has crossed Rs. 100 crore mark in sanctioning loans for Industries in private sector for Rs. 29.37 crores; Textiles come next with Rs. 15.7, Paper Rs. 11.88, chemicals Rs. 10.78, engineering Rs. 10.62, cement Rs. 6.67, glass and ceramics Rs. 4.96, non-ferrous metals Rs. 3.33 and the rest 7.77 crores.

**Sahu Chemicals**

India's first heavy soda ash plant which wlil considerably reduce the country's dependence on imports and save foreign exchange, worth Rs. 1 crore annually was inaugurated by the Chief Minister of Uttar Pradesh. Sahu Chemicals and Fertilisers, will produce 40,000 tons of heavy soda ash annually at its new plant. The plant will manufacture nitrogenous fertilisers, in the form of ammonium chloride and soda ash both heavy and light. The consumption of heavy soda ash by the glass industry had been estimated to go up to 1,20,000 tons by 1965-66.

**Rayon Pulp Plant**

Shri Manubhai Shah laid the foundation stone of the Great Mysore Rayon grade pulp and Paper Mills, India's biggest plant, Rs. 10 crore project in the private sector, in collaboration with Messrs. Empacel of France. It will go into production during 1963 and will have a capacity of 110 metric tons of Rayon grade dissolving pulp a day to start with.

**Indian Watches**

The first Indian Watches manufactured by the Hindustan Machine Tool Factory, Bangalore came out of the factory in July. This is started in collaboration with a Japanese firm.

**Rohtas**

The slag cement plant which will be located at Dalmiapuram, will have an annual capacity of 4,69,000 tons. The project is likely to involve an outlay of Rs. 50 lakhs including the foreign exchange component outlay of 34 lakhs. Raw materials will be obtained in the form of slag either from Durgapur Steel Plant or from Kulti Plant.

**Detorators Plant**

Detorators are for the first time to be manufactured in India. The company proposes to manufacture 24 million electric and 40 million plain ordinary detorators per annum and it will meet the country's present requirements and will save country's

foreign exchange worth over Rs. 1 crore. The plant is expected to go into full production in 1963.

**Mechanised Farm**

The Damle Committee of the Union Govt., had decided to accept proposals of the State Govt., regarding the setting up a machanised farm in Asirgarh Range.

**C. I. M. M. Co.**

The Central India Machine Manufacturing Company Ltd., Bharatpur, proposes to manufacture metre gauge wagons soon. It has already started manufacturing linestones and mine cars. Fully equipped with three electrically-operated over-head travelling cranes and about 71 sets of various machines, the production of C.R. Type B.G. wagons started in June 1958.

**Sulphur**

The Pyrites Chemical Corporation in public sector, is making arrangements for setting up the sulphur manufacturing plant of the country in collaboration with a Norwegian Firm. The initial plans include mining of about 11,000 tons of pyrites ore a day. At present 1,00,000 tons of sulphur valued Rs. 3 crores are annually imported.

**Tractors Farm Equipment**

Tractors and Farm Equipment Private Ltd. which has been formed by Simpson and Company Ltd., with an authorised capital of Rs. 2. crores have put up a factory spreading over 11 acres in Sembiam, Madras, for the manufacture of diesel tractors in collaboration with Massey-Ferguson Ltd., U.K. to the extent of 41%. The capacity of the factory will be 7000 tractors annually, employing 3000 workers.

**Chemical Research**

A new chemical research centre is now springing up at Goregaon, Bombay. A team of 24 Indian scientists is being recruited to work at the centre and this will start functioning in early 1963.

**Skoda**

A new unit will be set up at Durgapur in collaboration with Skoda, a Czechoslavok firm. This will be in addition to the Govt. plan to expand this existing 60 m.w. power station. With the completion of this plart, Durgapur Industries Board power generation capacity will be stepped up to 310 m.w.

**Birlas**

The Gwalior Rayon factory now being set up at Mavoor by the Birlas have sought the concurrence of the Civil Aviation Department, Govt. of India for the construction of an airship near kozhikode. The entire expenditure for the construction would be met by the Birlas.

**Bareilly Rubber Plant**

Construction of the synthetic rubber plant in Bereilly U.P. of Synthetics and Chemicals Ltd., will be completed by the end of 1962. The enterprise is sponsored by the Bombay firm of Tulasidas Kalachand. The factory will produce 30,000 of synthetic rubber a year. This factory will produce 37.7% of the total rubber production.

**India Tube Mills**

The India Tube Mill and Metal Industries Ltd., Bombay will undertake the manufacture of tanker bodies which are used by oil companies for transporting oil by motor vehicles. The company will also undertake the manufacture of pressure vessels, pipe fittings, and general stainless steel fabrication.

**Electrical Instruments**

Electrical Instruments Manufacturing Co. Ltd., a new company, will manufacture electrical equipments. The authorised capital of the company is Rs. 1 crore. The company will manufacture iron clad switches, distribution boards and house service metres etc.

**Bharat Renaults Aluminium**

Rs. 28 crores project for the manufacture of aluminium is being finalised. The plant will manufacture 30,000 tons of aluminium annually. The company would be known as "Bharat Renaults Aluminium Co."

**A. P. Plant**

The Rs. 25 crores Kothaguadem Fertiliser Plant of the Andhra Sugars will produce the cheapest urea. An area of 4,000 acres was acquired for the factory and the factory will go into production by the middle of 1964. The annual production will be 1,00,000 tons of urea.

**Purna Project**

The Govt of Maharashtra sanctions Rs. 14·28 crores for the Purna Project which envisages the construction of two Dams at Yeldari and Siddeshwar. Over 1,52,000 acres in the Hingoli and Basmath taluks will be irrigated. The storage of both the dams will serve the canal system taking off the Siddeshwar dam with a total gross command of 2,93,000 acres.

**Type Writer Scheme**

A Delhi firm Messrs Rai and Sons establishing a typewriter factory at Chandigarh manufacturing 10,000 'consul' tupewriters annually in collaboration with Czechoslavak 'Navo' The factory will be created at a cost of Rs. 30 lakhs of which Rs. 20 lakhs will be spent on machinery.

**Bhilai to make steel wires**

Production of new items like steel wires will be attempted in the expanded Bhilai steel works. The blast furnaces according to the new project report will be of the capacity of 1,719 cubic metre cast instead of the present 1,033 cubic metre capacity ones.

**Raw Film Base Plant**

A Rs. 4,00,00,000 project for the production of acetic acid and cellulose acetate used in the manufacture of raw film, plastics and other industries is proposed to be taken up by the Mysore Govt. This American-assisted plant will cost about Rs. 3,50,00,000 while the Rs. 40,00,000 acidic plant will be set up with Swedish help.

**Aluminium Foil Plant for Mirzapur**

General Industrial Society Ltd., of Calcutta is setting up an Aluminium Foil Plant at Mirzapur in U.P. at a cost of Rs. 250 lakhs. The plant will have the production capacity of 1,200 tons of aluminium foil of all types annually which can be increased to 1,800 tons without addition to its mechanical equipment. Mr. G. D. Kothari will issue Rs. 55 lakhs of equity shares.

**Three New Newsprint Projects**

Three firms, namely Rohtas Industries, Birla Gwalior (Pte Ltd) and Shree Gopal Paper Mills have been given licences for newsprint developments. The capacity of each of the three firms will be 30,000 tons a year. The Rohtas Industries' Unit in Karad and the Birla Gwalior's Unit in Parnel will be based on begasse and imported pulp. But Shree Gopal Mills' Unit in Kangra District in Punjab will be based on indigenous coxiferous raw material. The requirement of newsprint at the end of the Third Plan having been estimated at 1.5 lakh tons.

**Five New Cement Plants**

The Bhavanagar firm of M/s. Ramniklal Bhogilal Shah will set up a cement plant with an annual capacity of 50,790 metric tonnes, the capital being Rs. 17.5 lakhs.

Another plant is to be set up at Baroda by Shri Mahavir Industries with an annual capacity of 101, 590 metric tonnes with the capital of Rs. 70 lakhs.

The Port Albert Victor plant to be established by M/s Bharat Cement Works (P) Ltd.. Bombay will have a capacity of 203,180 metric tonnes, the capital being Rs. 2 crores.

The Calcutta firm of M/s. Surendra (P) Ltd. will set up its cement factory at Semleli with an annual capacity of 101,590 metric tons and the capital being 1.50 crores.

Birla Gwalior (P) Ltd., will put its factory at Chittograh in Rajastan with an annual capacity of 1,67,620 metric tonnes. The total outlay on the project will be 1.25 crores.

**First Gas Turbine Station**

India's first gas turbine power station was opened on April 21 at Zaloni. It will comprise three sets of 1,790 k.w. each having an installed capacity of 5,370 k.w. which will be utilised in the oil field. The Zaloni gas turbines use natural gas produced from the Nahorkatiya oil field.

**Indian Telephones' Production Target**

The production target of the Indian Telephone Industries Ltd., Bangalore for 1961–62 has been fixed at 1,50,000 telephones, 1,00,000 exchange lines and 3,000 long distance transmission channels. By the end of the Third Plan the annual production is likely to be of the order of 1,80,000 telephones, 1,36,000 exchange lines and transmission equipment valued 260 lakhs.

**India's First Basic Tetracycline Plant**

The Pfizer Antibiotic Plant at Chandigarh, Punjab, the first to make tetracycline from Indian basic raw materials is now complete and production has started. Pfizer is the first to start basic manufacture of tetracycline in the country and this plant is the first of its kind in India. Designed to make the oxytetracycline and tetracycline required for the production of Terramycin, Synermycin and Tetracyn, the Pfizer plant will effect a considerable saving of valuable foreign exchange.

The Pfizer factory is built on a ten-acre development and there is adequate room on the site for further expansion. The senior technical staff of this new Pfizer plant were all sent abroad for specialised training.

The city of Chandigarh was chosen for the factory site on the basis of geographic location, electric power, water and fuel supply, availability of transporation, nature of terrain and various other factors. The plant employs about 100 people. Pfizer also has a pharmaceutical packaging plant in Bombay which employs over 1000 persons.

The Pfizer plant is a major contribution to India's industrial progress. Both the Punjab and Central Governments have been very helpful to Pfizer on this project.

Pfizer is an international organization; it maintains extensive research facilities and operates manufacturing plants in many countries throughout the world. Pfizer has contributed considerably to the advancement of medicine in the various fields.

**Expansion Plan for Quilon Pipe Plant**

The Kerala Govt. has decided to convert the Premo Pipe factory at Neendakara into Govt. owned Private Ltd. Company. A special officer has been appointed to be incharge of the factory which produces pre-stressed pipes used for water supply drainage purposes. The factory would employ 800 workers.

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